

GenCore version 5.1.4_p5_4578
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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:06:07 ; Search time 36 Seconds
(without alignments)
103.639 Million cell updates/sec

Title: US-09-508-083-1

Perfect score: 144
Sequence: 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

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Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Post-processing:	Minimum Match	0%
	Maximum Match	100%
	Listing first	45 summaries

Database :

A_Geneseq.101002.*

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21:	/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT.*
22:	/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT.*
23:	/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	144	100.0	28	15	AAK45437	Insulinotropin de
2	144	100.0	28	15	AAK63249	Insulinotropin (G
3	144	100.0	28	17	AAW16659	Tetradecanoylated
4	144	100.0	28	17	AAW02644	Glucagon-Like pep
5	144	100.0	28	17	AAK98950	Target peptide (G
6	144	100.0	28	20	AAW93527	Peptide used in tr
7	144	100.0	28	21	AAW07295	Modified glucagon
8	144	100.0	28	21	AAV78952	Glucagon-Like pep
9	144	100.0	28	22	AAE09258	Human glucagon-lik
10	144	100.0	28	22	AAK63270	Amino acid sequenc

15	144	100.0	28.22	AA563273
16	144	100.0	28.22	ABB07148
17	144	100.0	28.23	AAW50399
18	144	100.0	29.13	AAW24522
19	144	100.0	29.13	AAW45436
20	144	100.0	29.15	AAW63244
21	144	100.0	29.16	AAW69075
22	144	100.0	29.15	AAW63244
23	144	100.0	29.16	AAW69075
24	144	100.0	29.17	AAW69664
25	144	100.0	29.19	AAW63181
26	144	100.0	29.19	AAW50904
27	144	100.0	29.19	AAW34197
28	144	100.0	29.20	AAW18033
29	144	100.0	29.20	AAW18033
30	144	100.0	29.21	AAW18990
31	144	100.0	29.21	AAW32797
32	144	100.0	29.21	AAW51879
33	144	100.0	29.22	AAW78951
34	144	100.0	29.22	AAE09255
35	144	100.0	29.22	AAW63277
36	144	100.0	29.23	AAW50399
37	144	100.0	30.15	AAW45433
38	144	100.0	30.15	AAW63244
39	144	100.0	30.16	AAW69066
40	144	100.0	30.16	AAW79808
41	144	100.0	30.16	AAW80548
42	144	100.0	30.17	AAW89656
43	144	100.0	30.17	AAW89678
44	144	100.0	30.17	AAW89678
45	144	100.0	30.18	AAW16383
46	144	100.0	30.18	AAW63288
47	144	100.0	30.19	AAW63187
48	144	100.0	30.19	AAW50906
49	144	100.0	30.20	AAW80307
50	144	100.0	30.20	AAW80315
51	144	100.0	30.20	AAW42935
52	144	100.0	30.20	AAW23737

ALIGNMENTS

XX	RESULT 1
XX	AAR45437
ID	AAR45437 standard; protein; 28 AA.
XX	
AC	AAR45437;
XX	
DT	27-JUN-1994 (first entry)
XX	
DE	Insulinotropin derivative.
XX	
KW	Insulinotropic; activity; enhancing insulin activity; treatment;
KW	Type II diabetes.
XX	
OS	Synthetic.
XX	
PN	WO9325579-A.
XX	
PD	23-DEC-1993.
XX	
PF	14-APR-1993; 93WO-US03388.
XX	
PR	15-JUN-1992; 92US-0899073.
XX	
PA	(PFIZ) PFIZER INC.
XX	
PL	Andrews GC, Daumy GO, Francoeur ML, Larson ER;
DR	WPI; 1994-007457/01.
XX	
PT	New derivs. of glucagon-like peptide 1 and insulinotropin - used for
PT	enhancing insulin action in a mammal, partic. by iontophoretic admin.
XX	
PS	Claim 3; Page 20; 32pp; English

An insoluble glucagon-like peptide derivative. Insulinotrophic der. Glycogen like pept. GEP1(7-35). Not s. GEP1(17-35). Homo. Glucagon-like pept. GEP-1 mutant pept. GEP-1(7-37)OH der. Sheaf-stable glucag. Glucagon-like pept. Glucagon-like pept. Glucagon-like pept. Human glucagon-1lik. An insoluble glucag. Glucagon-like pept. Insulinotrophic der. Insulinotrophic (GL. Amated glucagon Glucagon like pept. Human glucagon 1lik. Target peptide (SL. GEP1(7-35)-NH₂. GEP1(7-35)-Met. s. Glucagon-1like pept. Glucagon-1like pept. Glucagon-1like pept. GEP-1(7-36). Homo. Glucagon-like pept. Glucagon peptide-1. Glucagon peptide-1. Glucagon peptide-1. Glucagon-like pept. Glucagon-like pept.

XX The sequence is that of a derivative of insulinotropin which
 CC has insulinotropic activity and is useful for enhancing insulin
 CC action in a mammal, partic. for treating Type II diabetes
 CC (claimed). It is partic. suited for delivery to a mammal by
 CC ionophoresis.

XX Sequence 28 AA;

Query Match 100.0%; Score 144; DB 15; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 2

AAR63249
 ID AAR63249 standard; peptide; 28 AA.

XX AAR63249;

XX 02-MAY-1995 (first entry)

XX Insulinotropin (GLP-1(7-34)) for use in treating NIDDM.

XX Insulinotropic activity; GLP-1; glucagon-like protein 1; NIDDM;
 KM non-insulin dependent diabetes mellitus; insulinotropin; truncated.

OS Synthetic.

PN EP619322-A.

PD 12-OCT-1994.

PF 10-FEB-1994; 94EP-0300981.

PR - 07-APR-1993; 93US-0044133.

PA (PE12) PFIZER INC.

PI (PF12) PFIZER CORP.

PI Danley DE, Gelfand RA, Geoghegan KF, Kim Y, Lambert WJ;
 Q1 H, Oih, Hong Q, Yesook K;

WPI; 1994-311774/39.

PT Treatment of non-insulin dependent diabetes mellitus - using a
 PT glucagon-like peptide 1 or deriv. with prolonged action for
 PT sustained glycaemic control

PS Claim 2; Page 46; 70pp; English.

XX This peptide is GLP-1(7-34) [GLP - glucagon-like (peptide), a truncated
 CC deriv. of GLP-1. GLP-1 and its deriv.s are useful in the treatment of
 CC Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in
 CC the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino
 CC acid peptide having amino acids 7-37 of GLP-1, alternatively referred
 CC to as Insulinotropin. GLP-1(7-37) has insulinotropic activity, i.e. it
 CC is able to stimulate, or cause to be stimulated, the synthesis of the
 CC hormone insulin. Other derivs. of GLP-1 are shown in AAR63246-51. It
 CC has been discovered that prolonged plasma elevations of GLP-1, and
 CC related polypeptides, are necessary during the meal and beyond to
 CC achieve sustained glycaemic control in patients with NIDDM. The invention
 CC provides a compsn. that has prolonged action after each administration.

XX Sequence 28 AA;

Query Match 100.0%; Score 144; DB 15; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 3

AAW16669
 ID AAW16669 standard; peptide; 28 AA.

XX AAW16669;

XX 22-JUL-1997 (first entry)

XX Tetradeconylated glucagon like peptide 1 derivative.

XX Hormone; derivative; glucagon like peptide 1; modification;
 KM lipophilic substituent; tetradeconyl; protracted; action;
 KM profile; GLP-1.

OS Synthetic.

FT Key Location/Qualifiers

FT Modified-site 28 /note="Lys(Nepsilon-gamma-Glu(Nalphi-tetradecanoyl)
 -OH)-COOH"

PN M09629342-A1.

PD 26-SEP-1996.

PF 18-MAR-1996; 96WO-DK00106.

PR 17-MAR-1995; 95DK-0000275.

PA (NOVO) NOVO-NORDISK AS.

PI Halstrom JB, Hansen PH, Havelund S, Jonassen I;
 PI Kurtzhals P;

WPI; 1996-443133/44.

PT New peptide hormone derivs. - having a lipophilic substit.
 PT introduced into the N-terminal or C-terminal for a protracted
 PT profile of action.

PS Disclosure; Page 5; 21pp; English.

XX The present sequence is a pharmacologically active peptide hormone
 CC (PH) derivative, where the parent PH, glucagon like peptide 1,
 CC has been modified by introducing a carboxy-terminal lipophilic
 CC substituent, specifically tetradeconyl, giving it a protracted
 CC profile of action in the body compared to the parent PH.

XX Sequence 28 AA;

Query Match 100.0%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 4

AAW02644
 ID AAW02644 standard; peptide; 28 AA.

XX AAW02644;

XX 24-JAN-1997 (first entry)

DE Glucagon-like peptide-1 residues 7-34.
 XX
 XX GLP-1 (7-34): thixotropic; insulinotropic; diabetes; treatment;
 KM phenol; alcohol; aromatic; gel; protracted release.
 XX
 XX Synthetic.
 OS
 PN WO9620005-A1.
 XX
 PD 04-JUL-1996.
 XX
 XX 21-DEC-1995; 95WO-DK00516.
 PF
 XX 23-DEC-1994; 94DK-0001478.
 PR
 XX (NOVO) NOVO-NORDISK AS.
 PA
 XX Jensen E, Jorgensen KH;
 PI
 XX WPI: 1996-321644/32.
 DR
 XX
 XX New compsns. confg. glucagon-like peptide-1 - comprising gels for
 PT the protracted release of GLP-1 in the treatment of diabetes
 PT mellitus.
 XX
 PS Disclosure; Page 3; 16pp; English.
 XX
 CC The present sequence is that of residues 7-34 of glucagon-like peptide-1
 CC (GLP-1 (7-34)). Compsns. confg. a GLP-1 cpd. and a phenolic and/or an
 CC alcohol aromatic cpd. result in a thixotropic gel showing a protracted
 CC release of the active GLP-1 cpd.. The compsns. can be used as
 CC insulinotropic agents in the treatment of diabetes. In partic. GLP-1
 CC (7-37) is used in the examples of the invention (sequence not given).
 XX
 SQ Sequence 28 AA;
 Query Match 100.0%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2.1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28
 RESULT 5
 AAR98950
 ID AAR98950 standard; peptide; 28 AA.
 XX
 AC AAR98950;
 XX
 DT 15-JAN-1997 (first entry)
 XX
 DE Target peptide (GLP1(7-34)) used in fusion protein construct.
 XX
 XX Fusion protein construct; isolation; purification;
 KM growth hormone releasing factor; glucagon-like peptide 1;
 KM parathyroid hormone; inclusion body; carbonic anhydrase.
 XX
 OS Synthetic.
 OS
 PN WO9617942-A1.
 XX
 PD 13-JUN-1996.
 XX
 XX 07-DEC-1995; 95WO-US15800.
 PF
 XX 07-DEC-1994; 94US-0350530.
 PR
 XX (BION-) BIONEERASKA INC.
 PA
 XX De LA MOTTE RS, Henriksen DB, Holmquist B, Manning SD;
 PI Partridge BE, Stout JS, Wagner FW;
 PS

XX
 DR WPI: 1996-287186/29.
 XX
 XX Isolation and purification of peptide(s) from fusion protein constructs
 PT - which include a carbonic anhydrase and a variable fused
 PT polypeptide
 XX
 PS Claim 18; Page 47; 67pp; English.
 XX
 CC A new method for the isolation and/or purification of a recombinant
 CC peptide employs a fusion protein construct (FPC) comprising a
 CC carbonic anhydrase and a variable fused polypeptide containing a
 CC target peptide. The method comprises precipitating either the FPC or
 CC a fragment of the FPC including the carbonic anhydrase. An
 CC alternative method of producing the peptide comprises expressing the
 CC FPC as part of an inclusion body. The target peptides of the FPC are
 CC derived from growth hormone releasing factor (GRF), glucagon-like
 CC peptide 1 (GLP1) or parathyroid hormone (PTH). This sequence
 CC corresponds to amino acids 7-34 of GLP1.
 XX
 SQ Sequence 28 AA;
 Query Match 100.0%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2.1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28
 RESULT 6
 AAM93527
 ID AAM93527 standard; peptide; 28 AA.
 XX
 AC AAM93527;
 XX
 DT 15-JUN-1999 (first entry)
 XX
 DE Peptide used in treatment of diabetes mellitus and obesity.
 XX
 XX Diabetes mellitus; obesity; therapy; treatment; hormone; CAMP; CGMP;
 KM cyclic adenosine monophosphate; cyclic nucleotide degradation;
 KM cyclic guanosine monophosphate; antidiabetic; hypoglycemic; acromegaly;
 KM anti-obesity; non-insulin-dependent; mature onset; pancreatic disease;
 KM secondary hyperglycemia; pancreatitis; pancreasectomy; pheochromocytoma;
 KM hemochromatosis; endocrine disease; Cushing's syndrome; iatrogenic;
 KM hyperthyreosis; benzothiadiazine salturetic; diazoxide; glucocorticoid;
 KM pathological glucose tolerance; hyperglycemia; dyslipoproteinemia;
 KM hyperlipoproteinemia; hypotension.
 XX
 OS Synthetic.
 OS
 PN WO9914239-A1.
 XX
 PD 25-MAR-1999.
 XX
 XX 11-SEP-1998; 98WO-EP05804.
 PF
 XX 11-MAR-1998; 98DE-1010515.
 PR 12-SEP-1997; 97DE-1040081.
 PR 23-DEC-1997; 97DE-1057739.
 XX
 PA (FORS/) FORSSMANN W G.
 XX
 XX Adermann K, Forssmann WG, Meyer M, Richter R;
 PI WPI: 1999-244026/20.
 XX
 XX Composition containing stimulators of cyclic nucleotide
 PT monophosphate
 XX
 PS Claim 30; Page 18; 38pp; German.

XX This invention describes a composition containing at least two of the
 CC components (a) hormone that stimulates production of cyclic adenosine
 CC monophosphate (cAMP) (b) inhibitor of cyclic nucleotide degradation
 CC and (c) hormone that stimulates production of cyclic guanosine
 CC monophosphate (cGMP). This composition has antidiabetic, hypoglycemic,
 CC and anti-obesity activity. The product described in the invention
 CC can be used for treatment of (i) diabetes mellitus (non-)insulin
 CC dependent or mature onset diabetes, (ii) secondary hyperglycemia
 CC associated with pancreatic disease (chronic pancreatitis, pancreasectomy
 CC or hemochromatosis) or endocrine disease (acromegaly, Cushing's
 CC syndrome, pheochromocytoma or hyperthyroidism), (iii) iatrogenic
 CC hyperglycemia (e.g. caused by benzothiadiazine diuretics, diazoxide or
 CC glucocorticoids), (iv) pathological glucose tolerance, (v) hyperglycemia,
 CC (vi) dyslipoproteinemia, (vii) obesity, (viii) hyperlipoproteinemia
 CC and/or hypotension.

XX Sequence 28 AA:
 SQ

Query Match 100.0%; Score 144; DB 20; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28
 DB 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28

RESULT 7
 AAB07295
 ID AAB07295 standard; peptide: 28 AA.
 AC AAB07295;
 XX
 XX AAB07295;
 DT -17-JAN-2001 (first entry)
 XX
 DE Modified Glucagon Like Peptide (GLP) # 5.
 XX
 KW Peptide amidation; C-terminal alpha-carboxamide; GLP; clostripain;
 XX - amidative cleavage; clostripain; B; glucagon like peptide.
 OS Undifferentiated.
 XX
 PN WO200028067-A1.
 PD 18-MAY-2000.
 XX
 PF 05-NOV-1999; 99WO-US26060.
 XX
 PR 06-NOV-1998; 98US-0107311.
 PR 16-DEC-1998; 98US-0212663.
 XX
 PA (BION-) BIONEERASKA INC.
 XX
 PI Dormady D, Stout JS, Strydom DJ, Holmquist B, Wagner FW;
 DR WPI; 2000-376575/32.
 XX
 PT Preparation of peptide with C-terminal alpha-carboxamide residue, e.g.
 PT growth hormone releasing factors comprises treating substrate with
 PT ammonia in presence of clostripain
 XX
 PS Example 1; Page 16; 48pp; English.

XX The present sequence is a modified Glucagon Like Peptide (GLP) fragment.
 CC This sequence is composed of residues 7 to 34 of GLP, and was produced
 CC by attempted clostripain catalysed amidation of another modified GLP
 CC fragment (AAB07291) at pH 7.9. Hydrolysis at Lys34 occurred to produce the
 CC present sequence. The expected product would have had a C-terminal
 CC alpha-carboxamide residue. The peptide of AAB07291 was treated with an
 CC ammonia reagent and clostripain (also known as clostripain B).
 CC Clostripain cleaves arginine containing peptides amidatively at an

CC Arg-Xaa peptide bond.
 XX
 XX Sequence 28 AA;
 SQ

Query Match 100.0%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28
 DB 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28

RESULT 8
 AAY78952
 ID AAY78952 standard; peptide: 28 AA.
 AC AAY78952;
 XX
 XX AAY78952;
 DT 05-JUN-2000 (first entry)
 XX
 DE Glucagon-like peptide-1 fragment GLP-1 (7-34).
 XX
 KW Glucagon-like peptide-1; GLP-1; insulin producing cell; insulin; amylose;
 KW diabetes mellitus type 1; human; livestock; pet.
 XX
 OS Homo sapiens.
 XX
 PN WO200009666-A2.
 PD 24-FEB-2000.
 XX
 PF 10-AUG-1999; 99WO-US18099.
 XX
 PR 10-AUG-1998; 98US-0095917.
 XX
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Egan J, Perfetti R, Passaniti A, Greig N, Holloway H;
 DR WPI; 2000-205999/18.
 XX
 PT Differentiation of non-insulin producing cells into insulin-producing
 PT cells by glucagon-like peptide-1 or extendin-4, used to treat diabetes
 PT mellitus
 XX
 PS Disclosure; Page 16; 119pp; English.

XX This sequence represents a glucagon-like peptide-1 (GLP-1) fragment.
 CC GLP-1 is a hormone normally secreted by neuroendocrine cells of the gut.
 CC In response to food. GLP-1 fragments or Extendin-4 growth factor
 CC fragments can be used in the production of a population of
 CC insulin-producing cells from a population of non-insulin producing cells.
 CC The methods may also be used to promote pancreatic amylase producing
 CC cells to produce both insulin and amylase. The methods are used to treat
 CC diabetes mellitus (type 1) in humans, domesticated animals, livestock and
 CC pets.

XX Sequence 28 AA;
 SQ

Query Match 100.0%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28
 DB 1 HAECTFTSDVSYLEGQAKEFTIAMLVK 28

RESULT 9
 AAE09258
 ID AAE09258 standard; peptide: 28 AA.
 XX

AC	AAB09258;
DT	15-NOV-2001 (first entry)
DE	Human glucagon-like peptide-1 related molecule (GLP)-1 derivative #5.
KW	Human; glucagon-like peptide-1 related molecule; GLP crystal; manufacturing process; pharmaceutical formulation; therapy; diabetes; obesity.
OS	Homo sapiens.
XX	Synthetic.
PN	US2001014666-A1.
PD	16-AUG-2001.
PF	11-DEC-1998; 98US-0209799.
PR	11-DEC-1998; 98US-0209799.
PA	(HERM/) HERMELING R N. (HOFF/) HOFFMANN J A. (NARA/) NARASIMHAN C.
PI	Hermeling RN, Hoffmann JA, Narasimhan C;
DR	WPI: 2001-529113/58.
PT	Glucagon-like peptide-1 crystals for treating diabetes are prepared from mother liquor containing glucagon-like-peptide-1 related molecules dissolved in buffered solution and alcohol
PS	Disclosure: Page 11; 17pp; English.
CC	The present sequence is a human glucagon-like peptide-1 related molecule (GLP)-1 derivative. The single tetragonal flat rod-shaped or plate-like crystals of a GLP are prepared from a crystallisation solution containing a GLP, a buffering agent, an alcohol or a mono or disaccharide and optionally ammonium sulphate or zinc. The GLP crystals are used in manufacturing process, in pharmaceutical formulations for treating diabetes, obesity or related conditions in mammals.
Sequence	28 AA:
Query Match	100.0%; Score 144; DB 22; Length 28;
Best Local Similarity	100.0%; Pred. No. 2,le-14;
Matches	28; Conservative 0; Mismatches 0; Indels 0; Gaps 0
OY	I HAEGFTSDVSYLEGQAQKEFIAMLVK 28 IIIIIIIIIIIIIIIIIIIIIIIIIIIII
Dn	I HAEGFTSDVSYLEGQAQKEFIAMLVK 28
RESULT 10	
ID	AAG63270 standard; protein; 28 AA.
AC	AAG63270;
DT	01-OCT-2001 (first entry)
DE	Amino acid sequence of glucagon-like peptide 1 (GLP-1) analogue.
KW	Glucagon-like peptide 1; GLP-1; soluble GLP-1.
OS	Synthetic.
Key	Location/Qualifiers
Misc-difference	28 /note= "this residue is Lys-COOH or Lys-Gly-COOH"
MO	200155213-A2.

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XX      02-AUG-2001.
PD      XX
PE      16-JAN-2001; 2001WO-US00010.
PR      XX
PR      27-JAN-2000; 2000OUS-0178438.
PR      09-AUG-2000; 2000OUS-0224058.
PA      (ELIL ) LILLY & CO ELI.
PI      Prouty WFJ, Rinella JVJ;
DR      WFI: 2001-476192/51.
PT      Preparing a glucagon-like peptide 1 compound soluble in aqueous
PS      base or acid and neutralizing the solution -
SC      Disclosure; Page 12; 49pp; English.
CC      The present sequence represents a glucagon-like peptide 1 (GLP-1)
CC      analogue. The specification describes a method for preparing a GLP-1
CC      compound that is soluble in aqueous form at pH 7.4 from a GLP-1
CC      compound that is insoluble in aqueous form at pH 7.4. The method
CC      comprises dissolving the insoluble compound in aqueous base or acid;
CC      neutralizing the GLP-1 solution to a pH at which no amino acid
CC      racemisation of the GLP-1 compound occurs; and isolating GLP-1 from
CC      the neutralized solution. The method is used to prepare a soluble form
CC      of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
SO      Sequence      28 AA:

Query Match          100.0%; Score 144; DB 22; Length 28;
Best Local Similarity 100.0%; Pred. No. 2, 1e-14;
Matches   28; Conservative    0; Mismatches    0; Indels    0; Gaps    0;

OY      1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28
        |||||||
DB      1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28

RESULT 11
ID      AAG63273 standard; protein; 28 AA.
XX      AAG63273:
AC      XX
AD      01-OCT-2001 (first entry)
DE      An insoluble glucagon-like peptide 1 (GLP-1) compound.
E1      XX
E2      Glucagon-like peptide 1; GLP-1; soluble GLP-1.
E3      KW
E4      Synthetic.
E5      OS
E6      WO200155213-A2.
E7      PN
E8      02-AUG-2001.
E9      PD
E10     16-JAN-2001; 2001WO-US00010.
E11     PF
E12     27-JAN-2000; 2000OUS-0178438.
E13     PR
E14     09-AUG-2000; 2000OUS-0224058.
E15     XX
E16     PA
E17     (ELIL ) LILLY & CO ELI.
E18     PI
E19     Prouty WFJ, Rinella JVJ;
E20     DR
E21     WFI: 2001-476192/51.
E22     PT
E23     Preparing a glucagon-like peptide 1 compound soluble in aqueous
E24     solution at pH 7.4, comprises dissolving the insoluble form in aqueous
E25     base or acid and neutralizing the solution -

```

XX Claim 4; Page 38; 49pp; English.
 PS CC The present sequence represents an insoluble glucagon-like peptide 1
 CC (GLP-1). The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 2.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemization of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 SQ Sequence 28 AA:
 Query Match 100.0%; Score 144; DB 22; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2, 1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 RESULT 12
 ABB07145
 ID ABB07145 standard; peptide; 28 AA.
 XX
 AC ABB07145:
 XX
 DT 13-MAR-2002 (first entry)
 XX
 DE Glucagon-like peptide-1 (GLP-1) fragment (residues 7-34).
 XX
 KM GLP-1; glucagon-like-peptide-1; growth-hormone releasing factor; GRF;
 KM parathyroid hormone; PTH; antidiabetic; anorectic; cerebroprotective;
 KM vasoactive; anti-inflammatory; antihypertensive; hepatotropic;
 KM tranquilizer; vulnery; osteopathic; pharmaceutical.
 XX
 OS Homo sapiens.
 XX
 PN WO200187322-A2.
 XX
 PD 22-NOV-2001.
 XX
 PF 17-MAY-2001; 2001WO-US15872.
 XX
 PR 17-MAY-2000; 2000US-205377P.
 PR 19-MAY-2000; 2000US-205262P.
 XX
 PA (BION-) BIONEBRASKA INC.
 XX
 PI Holmquist B, Dormady DC;
 XX
 DR WPI: 2002-082941/11.
 XX
 PT New peptide formulation for treating disease e.g. diabetes, obesity,
 PT ischemia comprises peptides, an acid having a specified dissociation
 PT constant and an excipient -
 XX
 PS Disclosure; Page 10; 34pp; English.
 XX
 CC The invention provides a pharmaceutical composition that comprises a
 CC molecule selected from a glucagon-like-peptide-1 (GLP-1) molecule, growth
 CC -hormone releasing factor (GRF) molecule or a parathyroid hormone (PTH)
 CC molecule. The composition further includes a weak acid such as acetic
 CC acid. The pH of the composition is 3 - 5. The composition can be used for
 CC the treatment of a disease or condition selected from diabetes, excess
 CC appetite, obesity, stroke, ischemia, reperfusion injury, disturbed
 CC glucose metabolism, surgery, coma, shock, gastrointestinal disease,
 CC digestive hormone disease, atherosclerosis, vascular disease, gestational
 CC diabetes, liver disease and cirrhosis, glucocorticoid excess, Cushing's
 CC disease, the presence of activated counter regulatory hormones that occur

CC after trauma or a disease, hypertriglyceridemia, chronic pancreatitis,
 CC the need for parenteral feeding, and a catabolic state following surgery
 CC or injury. The present sequence represents a GLP-1 peptide fragment.
 XX
 SQ Sequence 28 AA:
 Query Match 100.0%; Score 144; DB 23; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2, 1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 RESULT 13
 AAM50395
 ID AAM50395 standard; Peptide; 28 AA.
 XX
 AC AAM50395:
 XX
 DT 18-FEB-2002 (first entry)
 XX
 DE Glucagon-like peptide 1 (7-34).
 XX
 KM Glucagon-like peptide 1 (7-34); GLP-1 (7-34); insulinotropic;
 KM human; glycaemia; antidiabetic; insulinotropic; NIDDM;
 KM non-insulin dependent diabetes mellitus; therapy.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 PN US6284727-B1.
 XX
 PD 04-SEP-2001.
 XX
 PF 07-JUN-1995; 95US-0472349.
 PF 25-JAN-1994; 94US-0181655.
 PR 07-APR-1993; 93US-0044133.
 XX
 PA (SCIO-) SCIOS INC.
 XX
 PI Kim Y, Lambert WJ, Qi H, Gelfand RA, Geoghegan KF, Danley DE;
 XX
 DR WPI: 2002-033119/04.
 XX
 PT Compositions useful in treatment of non-insulin dependent diabetes
 PT mellitus comprises peptides and polymer e.g. polysaccharide or
 PT vegetable oil -
 XX
 PS Claim 1(c); Column 47; 42pp; English.
 XX
 CC The present sequence is that of amino acids 7-34 of glucagon-like
 CC peptide 1 (GLP-1). During processing in the pancreas and
 CC intestine, 37-amino acid GLP-1 is converted to 31-amino acid
 CC GLP-1 (7-37). This peptide has insulinotropic activity, i.e. it is
 CC able to stimulate, or cause to be stimulated, the synthesis or
 CC expression of insulin. GLP-1, GLP-1 (7-37) and their derivatives,
 CC including the present peptide, are used in claimed compositions for
 CC prolonged administration in the treatment of non-insulin dependent
 CC diabetes mellitus. The compositions, which also include a polymer
 CC such as a polysaccharide or vegetable oil, enhance insulin action
 CC to achieve sustained glycaemic control.
 XX
 SQ Sequence 28 AA:
 Query Match 100.0%; Score 144; DB 23; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2, 1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

Db 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28

RESULT 14

AAAR24524 standard; peptide: 29 AA.

AC AAR24524; *

DT 02-DEC-1992 (first entry).

DE GLP-1 derivative.

KM Maturity onset diabetes mellitus; MODM; pathogenesis.

OS Homo sapiens.

PN USS118666-A.

PD 02-JUN-1992.

PF 05-MAY-1986; 86US-0859928.

PR 05-MAY-1986; 86US-0859928.

PR 26-JAN-1988; 88US-0148517.

PR 01-JUN-1990; 90US-0532111.

PA (GEHO) GEN HOSPITAL CORP.

PI Habener JF;

DR WPI; 1992-208235/25.

XX New glucagon-like peptide 1 derivatives - have insulinotropic

PS activity and are used to treat Diabetes mellitus

CC Claim 1; Page 20 and Fig 1; 16pp; English.

CC The sequence given is derived from glucagon-like peptide 1 (GLP-1) and has a higher insulinotropic activity than GLP-1 (1-36) and GLP-1 (1-37). The peptide may be modified to a acid addn. or carboxylic acid addn. salt or lower alkyl ester and amide (lower (di)alkyl amide) derivative. These modified derivatives have the same insulinotropic activity as the original GLP-1 derivative. These peptides are used in the treatment of maturity onset diabetes mellitus (MODM). They may also be used in the study of MODM pathogenesis. Dosages can be administered intravenously, intramuscularly or subcutaneously.

CC Sequence 29 AA:

Query Match 100.0%; Score 144; DB 13; Length 29;
Best Local Similarity 100.0%; Pred. No. 2.2e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28

RESULT 15
AAAR45436 standard; protein: 29 AA.

AC AAR45436;

DT 27-JUN-1994 (first entry)

DE Insulinotropin derivative.

KM Insulinotropic activity; enhancing insulin activity; treatment; Type II diabetes.

OS Synthetic.

XX W09325579-A.

XX 23-DEC-1993.

XX 14-APR-1993; 93WO-US03388.

XX 15-JUN-1992; 92US-0899073.

XX (PFIZ) PFIZER INC.

XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;

XX WPI; 1994-007457/01.

XX New derivs. of glucagon-like peptide 1 and insulinotropin - used for enhancing insulin action in a mammal, partic. by iontophoretic admin.

XX Claim 3; Page 20; 32pp; English.

CC The sequence is that of a derivative of insulinotropin which has insulinotropic activity and is useful for enhancing insulin action in a mammal, partic. for treating Type II diabetes (claimed). It is partic. suited for delivery to a mammal by iontophoresis.

CC Sequence 29 AA:

Query Match 100.0%; Score 144; DB 15; Length 29;
Best Local Similarity 100.0%; Pred. No. 2.2e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28

Search completed: March 19, 2003, 12:10:34
Job time : 36 secs

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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:02:12 ; Search time 14 Seconds
(without alignments)
58.846 Million cell updates/sec

Title: US-09-508-083-1
Perfect score: 144
Sequence: 1 HAEGFTSDVSSYLEGQAKKEFIAMLVK 28

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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6: /cgn2_6/ptodata/2/1aa/Backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	144	100.0	28	1	US-08-095-162-4
2	144	100.0	28	1	US-08-470-220A-4
3	144	100.0	28	3	US-08-967-374-4
4	144	100.0	28	4	US-08-472-349-5
5	144	100.0	28	4	US-09-209-799D-8
6	144	100.0	28	4	US-09-505-991-4
7	144	100.0	28	4	US-09-212-663-5
8	144	100.0	28	5	PCR-US95-15800-21
9	144	100.0	29	1	US-08-095-162-18
10	144	100.0	29	1	US-08-470-220A-18
11	144	100.0	29	3	US-08-967-374-18
12	144	100.0	29	4	US-08-472-349-4
13	144	100.0	29	4	US-09-209-799D-9
14	144	100.0	29	4	US-09-505-991-18
15	144	100.0	30	1	US-08-066-480-6
16	144	100.0	30	1	US-08-095-162-1
17	144	100.0	30	1	US-08-470-220A-1
18	144	100.0	30	2	US-08-927-227-1
19	144	100.0	30	3	US-08-967-374-1
20	144	100.0	30	4	US-09-348-136-1
21	144	100.0	30	4	US-08-961-405A-5
22	144	100.0	30	4	US-08-915-918A-5
23	144	100.0	30	4	US-09-302-596-4
24	144	100.0	30	4	US-08-472-349-3
25	144	100.0	30	4	US-09-333-415-4
26	144	100.0	30	4	US-09-585-181A-4
27	144	100.0	30	4	US-09-209-799D-10

28	144	100.0	30	4	US-09-975-905-1	Sequence 1, Appl1
29	144	100.0	30	4	US-09-505-991-1	Sequence 1, Appl1
30	144	100.0	30	4	US-09-573-809-1	Sequence 1, Appl1
31	144	100.0	30	4	US-09-303-016-4	Sequence 4, Appl1
32	144	100.0	30	4	US-09-212-663-4	Sequence 27, Appl1
33	144	100.0	30	5	PCR-US95-15800-27	Sequence 4, Appl1
34	144	100.0	31	1	US-09-025-951-1	Sequence 2, Appl1
35	144	100.0	31	1	US-08-095-162-2	Sequence 2, Appl1
36	144	100.0	31	1	US-08-095-162-3	Sequence 3, Appl1
37	144	100.0	31	1	US-08-295-913A-1	Sequence 1, Appl1
38	144	100.0	31	1	US-08-470-220A-2	Sequence 2, Appl1
39	144	100.0	31	1	US-08-470-220A-3	Sequence 3, Appl1
40	144	100.0	31	2	US-08-807-263-3	Sequence 3, Appl1
41	144	100.0	31	3	US-08-967-374-2	Sequence 2, Appl1
42	144	100.0	31	3	US-08-967-374-3	Sequence 3, Appl1
43	144	100.0	31	4	US-08-961-405A-1	Sequence 1, Appl1
44	144	100.0	31	4	US-09-258-750-3	Sequence 3, Appl1
45	144	100.0	31	4	US-08-915-918A-1	Sequence 1, Appl1

ALIGNMENTS

RESULT 1
US-08-095-162-4
; Sequence 4, Application US/08095162
; Patent No. 5512459
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; TITLE OF INVENTION: Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 5512459west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/095,162
; FILING DATE: 20-JUL-1993
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Nelson, Albin J.
; REGISTRATION NUMBER: 28, 659
; REFERENCE/DOCKET NUMBER: 8648.32-US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 28 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GLP1 (7-34)
; US-08-095-162-4

Query Match 100.0%; Score 144; DB 1; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28
Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28

RESULT 2

US-08-470-220A-4
; Sequence 4, Application US/08470220A
; Patent No. 5707826
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; TITLE OF INVENTION: Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 5707826west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/470,220A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/095,162
; FILING DATE: 20-JUL-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Nelson, Albin J.
; REGISTRATION NUMBER: 28,659
; REFERENCE/DOCKET NUMBER: 8648.32-US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 28 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GLP1 (7-34)
US-08-470-220A-4

Query Match 100.0%; Score 144; DB 1; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28
Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28

RESULT 3

US-08-967-374-4
; Sequence 4, Application US/08967374
; Patent No. 6037143
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane

; TITLE OF INVENTION: Enzymatic Method for Modification of
; TITLE OF INVENTION: Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 6037143west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/967,374
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/520,485
; FILING DATE: 29-AUG-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G.
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.32-US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 28 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GLP1 (7-34)
US-08-967-374-4

Query Match 100.0%; Score 144; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28
Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28

US-08-472-349-5
; Sequence 5, Application US/08472349
; Patent No. 6284727
; GENERAL INFORMATION:
; APPLICANT: Kim, Yesook
; APPLICANT: Lambert, William J.
; APPLICANT: Qi, Hong
; APPLICANT: Gelfand, Robert A.
; APPLICANT: Geoghegan, Kieran F.
; APPLICANT: Danley, Dennis E.
; TITLE OF INVENTION: Prolonged Delivery of Peptides
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pfizer Inc
; STREET: 235 East 42nd Street, 20th Floor
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10017-5755
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

US-08-472-349-5
; Sequence 5, Application US/08472349
; Patent No. 6284727
; GENERAL INFORMATION:
; APPLICANT: Kim, Yesook
; APPLICANT: Lambert, William J.
; APPLICANT: Qi, Hong
; APPLICANT: Gelfand, Robert A.
; APPLICANT: Geoghegan, Kieran F.
; APPLICANT: Danley, Dennis E.
; TITLE OF INVENTION: Prolonged Delivery of Peptides
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pfizer Inc
; STREET: 235 East 42nd Street, 20th Floor
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10017-5755
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

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; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/472,349
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/181,655
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sheyfa, Robert F.
; REGISTRATION NUMBER: 31,304
; REFERENCE/DOCKET NUMBER: PC8391
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212)573-1189
; TELEFAX: (212)573-1939
; TELEX: N/A
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 28 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHEICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: N/A
; STRAIN: N/A
; INDIVIDUAL ISOLATE: N/A
; HAPLOTYPE: N/A
; CELL LINE: N/A
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; CLONE: N/A
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; CHROMOSOME/SEGMENT: N/A
; MAP POSITION: N/A
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US-08-472-349-5
;
Query Match          100.0%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28
DB      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28

RESULT 5
US-09-209-799D-8
; Sequence 8, Application US/09209799D
; Patent No. 6380357
; GENERAL INFORMATION:
; APPLICANT: Hermeling, Ronald
; APPLICANT: Hoffmann, James
; APPLICANT: Narasimhan, Chakravarthy
; TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
; FILE REFERENCE: X-10242
; CURRENT APPLICATION NUMBER: US/09/209,799D
; NUMBER OF SEQ ID NOS: 29
; CURRENT FILING DATE: 1998-12-11
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 8
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic construct
US-09-209-799D-8
;
Query Match          100.0%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28
DB      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28

RESULT 6
US-09-505-991-4
; Sequence 4, Application US/09505991
; Patent No. 6403361
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; Stout, Jay
; Henriksen, Dennis
; Partridge, Bruce
; Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 6403361west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/505,991
; FILING DATE: 17-Feb-2000
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/520,485
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G.
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.32-USP1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 28 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GLP1 (7-34)
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:

US-09-505-991-4
;
Query Match          100.0%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28
DB      1 HAEGFTSDVSSYLEGQAAKEFTIAVLK 28

RESULT 7
US-09-212-663-5
; Sequence 5, Application US/09212663
; Patent No. 6461834
; GENERAL INFORMATION:
; APPLICANT: DORMADY, Dan
; APPLICANT: STOUT, Jay S.
; APPLICANT: STRYDOM, Daniel J.

```

APPLICANT: HOLMQUIST, Barton
APPLICANT: WAGNER, Fred W.
TITLE OF INVENTION: ENZYMATIC AMIDATION OF PEPTIDES
FILE REFERENCE: 089187/0162
CURRENT APPLICATION NUMBER: US/09/212,663
CURRENT FILING DATE: 1998-12-16
PRIOR APPLICATION NUMBER: US 60/107,311
PRIOR FILING DATE: 1998-11-06
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 28
TYPE: PRT
ORGANISM: Escherichia coli
US-09-212-663-5

Query Match 100.0%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28
|||||
Db 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28

RESULT 8
PCT-US95-15800-21
Sequence 21, Application PC/TUS9515800
GENERAL INFORMATION:
APPLICANT: Bionebraska, Inc.
TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING
TITLE OF INVENTION: RECOMBINANT FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15800
FILING DATE: 07-DEC-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,530
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.45USWO
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
PCT-US95-15800-21

Query Match 100.0%; Score 144; DB 5; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28
|||||
Db 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28

RESULT 9
US-08-095-162-18

Sequence 18, Application US/08095162
Patent No. 5512459
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.

APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-095-162-18

Query Match 100.0%; Score 144; DB 1; Length 29;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28
|||||
Db 1 HAEGFTSDVSYLEGGAKEFIAMLVK 28

RESULT 10
US-08-470-220A-18

Sequence 18, Application US/08470220A
Patent No. 5707826
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.

APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of

;; TITLE OF INVENTION: Recombinant Polypeptides
;; NUMBER OF SEQUENCES: 26
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Merchant & Gould
;; STREET: 3100 No. 5707826west Center
;; CITY: Minneapolis
;; STATE: MN
;; COUNTRY: USA
;; ZIP: 55402
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: Patentin Release #1.0, Version #1.25
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/470,220A
;; FILING DATE: 06-JUN-1995
;; CLASSIFICATION: 435
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US 08/095,162
;; FILING DATE: 20-JUL-1993
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Nelson, Albin J.
;; REGISTRATION NUMBER: 28,659
;; REFERENCE/DOCKET NUMBER: 8648.32-US01
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 612-332-5300
;; TELEFAX: 612-332-9081
;; INFORMATION FOR SEQ ID NO: 18:
;; SEQUENCE CHARACTERISTICS:
;; - LENGTH: 29 amino acids
;; TYPE: amino acid
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
US-08-470-220A-18

Query Match 100.0%; Score 144; DB 1; Length 29;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28

RESULT 11
US-08-967-374-18
;; Sequence 18, Application US/08967374
;; Patent No. 6037143
;; GENERAL INFORMATION:
;; APPLICANT: Wagner, Fred W.
;; APPLICANT: Stout, Jay
;; APPLICANT: Henriksen, Dennis
;; APPLICANT: Partridge, Bruce
;; APPLICANT: Manning, Shane
;; TITLE OF INVENTION: Enzymatic Method for Modification of
;; TITLE OF INVENTION: Recombinant Polypeptides
;; NUMBER OF SEQUENCES: 26
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Merchant & Gould
;; STREET: 3100 No. 6037143west Center
;; CITY: Minneapolis
;; STATE: MN
;; COUNTRY: USA
;; ZIP: 55402
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: Patentin Release #1.0, Version #1.30
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/967,374
;; FILING DATE:

;; CLASSIFICATION:
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 08/520,485
;; FILING DATE: 29-AUG-1995
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Carter, Charles G.
;; REGISTRATION NUMBER: 35,093
;; REFERENCE/DOCKET NUMBER: 8648.32-US01
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 612-332-5300
;; TELEFAX: 612-332-9081
;; INFORMATION FOR SEQ ID NO: 18:
;; SEQUENCE CHARACTERISTICS:
;; - LENGTH: 29 amino acids
;; TYPE: amino acid
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
US-08-967-374-18

Query Match 100.0%; Score 144; DB 3; Length 29;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLYK 28

RESULT 12
US-08-472-349-4
;; Sequence 4, Application US/08472349
;; Patent No. 6284727
;; GENERAL INFORMATION:
;; APPLICANT: Kim, Yesook
;; APPLICANT: Lambert, William J.
;; APPLICANT: Qi, Hong
;; APPLICANT: Gelfand, Robert A.
;; APPLICANT: Geoghagan, Kieran F.
;; APPLICANT: Danley, Dennis E.
;; TITLE OF INVENTION: Prolonged Delivery of Peptides
;; NUMBER OF SEQUENCES: 7
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Pfizer Inc
;; STREET: 235 East 42nd Street, 20th Floor
;; CITY: New York
;; STATE: New York
;; COUNTRY: U.S.A.
;; ZIP: 10017-5755
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: Patentin Release #1.0, Version #1.25
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/472,349
;; FILING DATE:
;; CLASSIFICATION: 514
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US/08/181,655
;; FILING DATE:
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Sheyke, Robert F.
;; REGISTRATION NUMBER: 31,304
;; REFERENCE/DOCKET NUMBER: PC8391
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (212)573-1189
;; TELEFAX: (212)573-1939
;; TELEX: N/A
;; INFORMATION FOR SEQ ID NO: 4:
;; SEQUENCE CHARACTERISTICS:
;; - LENGTH: 29 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single

TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: N/A
STRAIN: N/A
INDIVIDUAL ISOLATE: N/A
HAPLOTYPE: N/A
CELL LINE: N/A
IMMEDIATE SOURCE:
LIBRARY: N/A
CLONE: N/A
POSITION IN GENOME:
CHROMOSOME/SEGMENT: N/A
MAP POSITION: N/A
US-08-472-349-4

Query Match 100.0%; Score 144; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28
DB 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28

RESULT 13
US-09-209-799D-9
Sequence 9, Application US/09209799D
Patent No. 6380357
GENERAL INFORMATION:
APPLICANT: Hermeling, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/209,799D
CURRENT FILING DATE: 1998-12-11
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 9
LENGTH: 29
TYPE: PRT
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-209-799D-9

Query Match 100.0%; Score 144; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28
DB 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28

RESULT 14
US-09-505-991-18
Sequence 18, Application US/09505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Stout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991

FILING DATE: 17-Feb-2000

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/520,485

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Carter, Charles G.

REGISTRATION NUMBER: 35,093

REFERENCE/DOCKET NUMBER: 8648.32-USDL

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300

TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 18:

SEQUENCE CHARACTERISTICS:

LENGTH: 29 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

SEQUENCE DESCRIPTION: SEQ ID NO: 18:

US-09-505-991-18
Query Match 100.0%; Score 144; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28
DB 1 HAEGETSDVSSYLEGQAAKEFTIAWLK 28

RESULT 15
US-08-066-480-6
Sequence 6, Application US/08066480
Patent No. 5424286
GENERAL INFORMATION:
APPLICANT: Eng, John
TITLE OF INVENTION: Pharmaceutical Compositions And Use of
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allegretti & Witcoff, Ltd.
STREET: 10 S. Wacker Drive
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/066,480
FILING DATE: 24-MAR-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: McDonnell, John J
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 93,084
TELECOMMUNICATION INFORMATION:

TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..30
OTHER INFORMATION: /label= GLP-1-7-36
OTHER INFORMATION: /note= "GLP-1(7-36) fragment"
US-08-066-480-6

Query Match 100.0%; Score 144; DB 1; Length 30;
Best Local Similarity 100.0%; Pred. No. 1.2e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28
|||
Db 1 HAEGFTSDVSSYLEGOAKKEFIAMLVK 28

Search completed: March 19, 2003, 12:06:21
Job time : 14 secs

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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:05:42 ; Search time 14 Seconds

(without alignments)
106.924 Million cell updates/sec

Title: US-09-508-083-1

Perfect score: 144

Sequence: 1 HAEGFTSDVSYLSEGOAKKEFIAMLVK 28

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Gapop 10.0 , Gapext 0.5

Searched: 221153 seqs, 53462247 residues

Total number of hits satisfying chosen parameters: 221153

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published_Applications_AA:*

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2: /cgn2_6/ptodata/1/pubpaa/PCIT_NEW_PUB.pep.*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep.*
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13: /cgn2_6/ptodata/1/pubpaa/US16_PUBCOMB.pep.*
14: /cgn2_6/ptodata/1/pubpaa/US17_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	144	100.0	28	US-09-997-792-8	Sequence 8, Appli
2	144	100.0	29	US-09-834-229A-3	Sequence 3, Appli
3	144	100.0	29	US-09-997-792-9	Sequence 9, Appli
4	144	100.0	30	US-10-125-255-1	Sequence 1, Appli
5	144	100.0	30	US-09-834-229A-5	Sequence 5, Appli
6	144	100.0	30	US-09-997-792-10	Sequence 10, Appli
7	144	100.0	30	US-09-851-738-4	Sequence 4, Appli
8	144	100.0	30	US-09-805-507-4	Sequence 4, Appli
9	144	100.0	30	US-09-859-804-4	Sequence 4, Appli
10	144	100.0	30	US-09-982-978-4	Sequence 4, Appli
11	144	100.0	30	US-09-953-021B-4	Sequence 4, Appli
12	144	100.0	30	US-10-072-540A-4	Sequence 4, Appli
13	144	100.0	31	US-09-834-229A-1	Sequence 1, Appli
14	144	100.0	31	US-09-997-792-11	Sequence 11, Appli
15	144	100.0	31	US-10-093-958-19	Sequence 19, Appli
16	144	100.0	31	US-09-754-723-1	Sequence 1, Appli
17	144	100.0	31	US-09-420-785A-3	Sequence 1, Appli
18	144	100.0	31	US-09-876-388-2	Sequence 2, Appli
19	144	100.0	31	US-09-876-388-17	Sequence 17, Appli

20	144	100.0	31	10	US-09-876-388-27	Sequence 27, Appli
21	144	100.0	31	10	US-09-876-388-28	Sequence 28, Appli
22	144	100.0	31	10	US-09-851-728-3	Sequence 3, Appli
23	144	100.0	31	10	US-09-805-507-3	Sequence 3, Appli
24	144	100.0	31	10	US-09-859-804-3	Sequence 3, Appli
25	144	100.0	31	10	US-09-982-978-3	Sequence 3, Appli
26	144	100.0	31	10	US-09-953-021B-3	Sequence 3, Appli
27	144	100.0	31	12	US-10-072-540A-1	Sequence 1, Appli
28	144	100.0	35	9	US-09-943-084-1	Sequence 1, Appli
29	144	100.0	36	10	US-09-851-738-2	Sequence 2, Appli
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31	144	100.0	36	10	US-09-859-804-2	Sequence 2, Appli
32	144	100.0	36	10	US-09-982-978-2	Sequence 2, Appli
33	144	100.0	36	10	US-09-953-021B-2	Sequence 2, Appli
34	144	100.0	37	10	US-09-420-785A-2	Sequence 2, Appli
35	144	100.0	37	10	US-09-876-388-1	Sequence 1, Appli
36	144	100.0	37	10	US-09-876-388-16	Sequence 16, Appli
37	144	100.0	37	10	US-09-876-388-25	Sequence 25, Appli
38	144	100.0	37	10	US-09-876-388-26	Sequence 26, Appli
39	144	100.0	37	10	US-09-851-738-1	Sequence 1, Appli
40	144	100.0	37	10	US-09-805-507-1	Sequence 1, Appli
41	144	100.0	37	10	US-09-859-804-1	Sequence 1, Appli
42	144	100.0	37	10	US-09-982-978-1	Sequence 1, Appli
43	144	100.0	37	10	US-09-953-021B-1	Sequence 1, Appli
44	141	97.9	31	9	US-09-997-792-11	Sequence 11, Appli
45	140	97.2	30	9	US-09-997-792-15	Sequence 15, Appli

ALIGNMENTS

RESULT 1

US-09-997-792-8

Sequence 8, Application US/09997792

Publication No. US20030045464A1

GENERAL INFORMATION:

APPLICANT: Hoffmann, James

APPLICANT: Narasimhan, Chakravarthy

TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS

FILE REFERENCE: X-10242

CURRENT APPLICATION NUMBER: US/09/997,792

CURRENT FILING DATE: 2001-11-30

NUMBER OF SEQ ID NOS: 29

SOFTWARE: PatentIn version 3.0

SEQ ID NO 8

LENGTH: 28

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: synthetic construct

US-09-997-792-8

Query Match

Best Local Similarity 100.0%; Score 144; DB 9; Length 28;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLSEGOAKKEFIAMLVK 28

DB 1 HAEGFTSDVSYLSEGOAKKEFIAMLVK 28

RESULT 2

US-09-834-229A-3

Sequence 3, Application US/09834229A

Publication No. US20030022823A1

GENERAL INFORMATION:

APPLICANT: Eftendic, Sand

TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION

FILE REFERENCE: X-10822A

CURRENT APPLICATION NUMBER: US/09/834,229A

CURRENT FILING DATE: 2001-04-12

PRIOR APPLICATION NUMBER: US 08/915,918

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; PRIOR FILING DATE: 1997-08-21
; PRIOR APPLICATION NUMBER: US 06/024,980
; PRIOR FILING DATE: 1996-08-30
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 3
; LENGTH: 29
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
; NAME/KEY: MISC_FEATURE
; LOCATION: (29)..(29)
; OTHER INFORMATION: Xaa at position 29 is absent or Gly.
US-09-834-229A-3

Query Match          100.0%; Score 144; DB 9; Length 29;
Best Local Similarity 100.0%; Pred. No. 2,8e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28

RESULT 3
US-09-997-792-9
; Sequence 9, Application US/09997792
; Publication No. US20030045464A1
; GENERAL INFORMATION:
; APPLICANT: Hermeling, Ronald
; APPLICANT: Hoffmann, James
; TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
; FILE REFERENCE: X-10242
; CURRENT APPLICATION NUMBER: US/09/997,792
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 9
; LENGTH: 29
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
US-09-997-792-9

Query Match          100.0%; Score 144; DB 9; Length 29;
Best Local Similarity 100.0%; Pred. No. 2,8e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28

RESULT 4
US-10-125-255-1
; Sequence 1, Application US/10125255
; Patent No. US20020165342A1
; GENERAL INFORMATION:
; APPLICANT: Galloway, John A
; APPLICANT: Hoffmann, James A
; TITLE OF INVENTION: Glucagon-like Insulinotropic peptides, Compositions and Methods
; FILE REFERENCE: X-9332E
; CURRENT APPLICATION NUMBER: US/10/125,255
; CURRENT FILING DATE: 2002-04-17
; PRIOR APPLICATION NUMBER: 09/573,809
; PRIOR FILING DATE: 2000-05-18
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 1
; LENGTH: 30
```

```

; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: MOD_RES
; LOCATION: (30)..(30)
; OTHER INFORMATION: The arginine residue at position 30 is modified so as to repla
; OTHER INFORMATION: the terminal carboxyl group with an amine.
US-10-125-255-1

Query Match          100.0%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28

RESULT 5
US-09-834-229A-5
; Sequence 5, Application US/09834229A
; Publication No. US2003002823A1
; GENERAL INFORMATION:
; APPLICANT: Efendic, Sued
; TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
; FILE REFERENCE: X-10822A
; CURRENT APPLICATION NUMBER: US/09/834,229A
; CURRENT FILING DATE: 2001-04-12
; PRIOR APPLICATION NUMBER: US 08/915,918
; PRIOR FILING DATE: 1997-08-21
; PRIOR APPLICATION NUMBER: US 06/024,980
; PRIOR FILING DATE: 1996-08-30
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 5
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
US-09-834-229A-5

Query Match          100.0%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSYLEGQAQKEFIAMLVK 28

RESULT 6
US-09-997-792-10
; Sequence 10, Application US/09997792
; Publication No. US20030045464A1
; GENERAL INFORMATION:
; APPLICANT: Hermeling, Ronald
; APPLICANT: Hoffmann, James
; TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
; FILE REFERENCE: X-10242
; CURRENT APPLICATION NUMBER: US/09/997,792
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 10
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
US-09-997-792-10
```

Query Match 100.0%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28
DB 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28

RESULT 7
US-09-851-738-4
; Sequence 4, Application US/09851738
; Patent No. US20020055460A1
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas R.
; APPLICANT: Ehlers, Mario R.W.
; TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
; FILE REFERENCE: P036600S1
; CURRENT APPLICATION NUMBER: US/09/851,738
; CURRENT FILING DATE: 2001-05-09
; PRIOR APPLICATION NUMBER: 09/302,596
; PRIOR FILING DATE: 1999-04-30
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: mammalian
US-09-851-738-4

Query Match 100.0%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28
DB 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28

RESULT 8
US-09-805-507-4
; Sequence 4, Application US/09805507
; Patent No. US20020098195A1
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas R.
; APPLICANT: Ehlers, Mario
; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
; FILE REFERENCE: 089187/0395
; CURRENT APPLICATION NUMBER: US/09/805,507
; CURRENT FILING DATE: 2001-03-14
; PRIOR APPLICATION NUMBER: 09/859,804
; PRIOR FILING DATE: 2001-05-18
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Unknown Organism
; FEATURE:
; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
; OTHER INFORMATION: peptide
US-09-805-507-4

Query Match 100.0%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28
DB 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28

RESULT 9
US-09-859-804-4
; Sequence 4, Application US/09859804
; Patent No. US20020107206A1
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas R.
; APPLICANT: Ehlers, Mario
; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
; FILE REFERENCE: 089187/0395
; CURRENT APPLICATION NUMBER: US/09/859,804
; CURRENT FILING DATE: 2001-05-18
; PRIOR APPLICATION NUMBER: 60/205,239
; PRIOR FILING DATE: 2000-05-19
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Unknown Organism
; FEATURE:
; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
; OTHER INFORMATION: peptide
US-09-859-804-4

Query Match 100.0%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28
DB 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28

RESULT 10
US-09-982-978-4
; Sequence 4, Application US/09982978
; Patent No. US20020146405A1
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas R.
; APPLICANT: Ehlers, Mario
; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
; FILE REFERENCE: 089187/0395
; CURRENT APPLICATION NUMBER: US/09/982,978
; CURRENT FILING DATE: 2001-10-22
; PRIOR APPLICATION NUMBER: 09/859,804
; PRIOR FILING DATE: 2001-05-18
; PRIOR APPLICATION NUMBER: 60/205,239
; PRIOR FILING DATE: 2000-05-19
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Unknown Organism
; FEATURE:
; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
; OTHER INFORMATION: peptide
US-09-982-978-4

Query Match 100.0%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 2,9e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28
DB 1 HAEGTTSVSSYLEGOAAKEFIAMLVK 28

RESULT 11
US-09-953-021B-4
; Sequence 4, Application US/09953021B
; Patent No. US20020147131A1
; GENERAL INFORMATION:

APPLICANT: Coolidge, Thomas L.
APPLICANT: Ehlers, Mario R.W.
TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of Isch
TITLE OF INVENTION: Repurposed Skeletal Muscle Tissue
FILE REFERENCE: P03660US6
CURRENT APPLICATION NUMBER: US/09/953,021B
PRIOR APPLICATION NUMBER: 2001-09-11
PRIOR FILING DATE: 09/302,596
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patentln Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
US-09-953-021B-4

Query Match 100.0%; Score 144; DB 10;
Best Local Similarity 100.0%; Pred. No. 2.9e-15;
Matches 28; Conservative 0; Mismatches 0;
Length 30;
Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 12
US-10-072-540A-4
Sequence 4, Application US/10072540A
Patent No. US20020123466A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 60/067,600
PRIOR FILING DATE: 1997-12-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentln version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
US-10-072-540A-4

Query Match 100.0%; Score 144; DB 12;
Best Local Similarity 100.0%; Pred. No. 2.9e-15;
Matches 28; Conservative 0; Mismatches 0;
Length 30;
Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 13
US-09-834-229A-1
Sequence 1, Application US/09834229A
Publication No. US20030022823A1
GENERAL INFORMATION:
APPLICANT: Efendic, Snad
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30

NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentln version 3.1
SEQ ID NO 1
LENGTH: 31
TYPE: PRT
ORGANISM: Homo sapiens
US-09-834-229A-1

Query Match 100.0%; Score 144; DB 9;
Best Local Similarity 100.0%; Pred. No. 3e-15;
Matches 28; Conservative 0; Mismatches 0;
Length 31;
Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 14
US-09-997-792-1
Sequence 1, Application US/0997792
Publication No. US20030045464A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, Ronald
APPLICANT: Narasimhan, Chakravarthy
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentln version 3.0
SEQ ID NO 1
LENGTH: 31
TYPE: PRT
ORGANISM: Homo sapiens
US-09-997-792-1

Query Match 100.0%; Score 144; DB 9;
Best Local Similarity 100.0%; Pred. No. 3e-15;
Matches 28; Conservative 0; Mismatches 0;
Length 31;
Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 15
US-10-093-958-19
Sequence 19, Application US/10093958
Publication No. US20030044423A1
GENERAL INFORMATION:
APPLICANT: Gillies, Stephen
APPLICANT: Jeffrey, Way
TITLE OF INVENTION: Expression Technology for Proteins Containing a Hybrid Isotype
FILE REFERENCE: LEX-016
CURRENT APPLICATION NUMBER: US/10/093,958
CURRENT FILING DATE: 2002-03-07
PRIOR APPLICATION NUMBER: US 60/274,096
PRIOR FILING DATE: 2001-03-07
NUMBER OF SEQ ID NOS: 50
SOFTWARE: Patentln version 3.0
SEQ ID NO 19
LENGTH: 31
TYPE: PRT
ORGANISM: artificial sequence
FEATURE:
OTHER INFORMATION: glucagon-like peptide 1
US-10-093-958-19

Query Match 100.0%; Score 144; DB 9;
Best Local Similarity 100.0%; Pred. No. 3e-15;
Matches 28; Conservative 0; Mismatches 0;
Length 31;
Indels 0; Gaps 0;

Oy 1 HAEGTFTSDVSSYLEGQAAKEFIAVLK 28
|||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFIAVLK 28

Search completed: March 19, 2003, 12:09:50
Job time : 15 secs

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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:09:32 ; Search time 16 Seconds

(without alignments)
168.235 Million cell updates/sec

Title: US-09-508-083-1

Sequence: 1 HAECTFTSDVSYLEGGAAKEFIAMLVK 28

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	144	100.0	158	1 GCRG	glucagon precursor
2	144	100.0	180	1 GCHU	glucagon precursor
3	144	100.0	180	1 GCGP	glucagon precursor
4	144	100.0	180	1 GCRTPU	glucagon precursor
5	144	100.0	180	1 GCRRT	glucagon precursor
6	144	100.0	180	1 GCHY	glucagon precursor
7	144	100.0	180	1 GCBP	glucagon precursor
8	144	100.0	180	2 A57294	glucagon precursor
9	132	91.7	151	1 GCGH	glucagon precursor
10	132	91.7	206	2 I51301	glucagon precursor
11	118	81.9	30	2 B61125	proglucagon - chic
12	118	81.9	30	2 C61125	glucagon-like pept
13	118	81.9	101	1 GCRGB	glucagon precursor
14	112	77.8	63	1 GCRDC	glucagon precursor
15	112	77.8	122	1 GCAF2	glucagon 2 precurs
16	110	76.4	72	1 GCGXA	glucagon precursor
17	109	75.7	66	2 I51093	glucagon - chinook
18	109	75.7	178	2 I51058	glucagon I precurs
19	109	75.7	178	2 I51057	glucagon II precurs
20	104	72.2	30	2 S44473	glucagon-like pept
21	104	72.2	60	1 GCONC	glucagon precursor
22	97	67.4	29	2 S07211	glucagon - marbled
23	97	67.4	87	1 GCFIS	glucagon precursor
24	95	66.0	29	1 GCFD	glucagon - smaller
25	93	64.6	29	1 GCEN	glucagon - elephan
26	93	64.6	124	1 GCAF	glucagon 1 precurs
27	90	62.5	29	1 GCOPV	glucagon - North A
28	90	62.5	29	2 A91740	glucagon - turkey
29	62.5	29	2 A91741		glucagon - rabbit

30	90	62.5	29	2 A91742	glucagon - Arabian
31	90	62.5	29	2 C39258	glucagon - common
32	90	62.5	31	2 S44472	glucagon G2 - North
33	90	62.5	69	1 GCDG69	glucagon-69 - dog
34	88	61.1	29	1 GCDK	glucagon - duck
35	88	61.1	29	1 A61583	glucagon - ostrich
36	88	61.1	29	1 GCTFS	glucagon - slider
37	88	61.1	29	2 C60840	glucagon I - Europ
38	88	61.1	31	2 S44471	glucagon G1 - North
39	87	60.4	29	1 GCB	glucagon - Chinchi
40	86	59.7	29	1 GCFLE	glucagon - Europea
41	86	59.7	29	2 A61135	glucagon - bigeye
42	83	57.6	29	2 S39018	glucagon - bowfin
43	83	57.6	39	1 HMGH4G	extendin-4 - Gila m
44	81	56.2	39	1 HMGH32	extendin-3 - Mexico
45	79	54.9	36	1 GCFI	glucagon-36 - spot

ALIGNMENTS

RESULT 1

GCPG
glucagon precursor - pig (fragment)
N:Alternate names: glicentin; oxyntomodulin
M:Contains: glicentin-related peptide; glucagon; glucagon-37 (oxyntomodulin); glucago
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 17-Dec-1982 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: A01540; A60312; A91781; B32614; A28064
R:Thim, L.; Moody, A.J.
Regul. Pept. 2, 139-150, 1981
A:Title: The primary structure of porcine glicentin (proglucagon).
A:Reference number: A94233; MUID:81248172; PMID:6894800
A:Accession: A01540
A:Molecule type: protein
A:Residues: 1-69 <TH1>
R:Thim, L.; Moody, A.J.
Regul. Pept. Suppl. 2, S33, 1983
A:Title: Primary structure of a possible porcine proglucagon fragment.
A:Reference number: A60312
A:Accession: A60312
A:Molecule type: protein
A:Residues: 1-30 <TH2>
A>Note: this peptide is co-secreted with glucagon from the pancreas
R:Bromer, W.W.; Sinn, L.G.; Behrens, O.K.
J. Am. Chem. Soc. 79, 2807-2810, 1957
A:Title: The amino acid sequence of glucagon. V. Location of amide groups, acid degra
A:Reference number: A91781
A:Accession: A91781
A:Molecule type: protein
A:Residues: 33-61 <BRO>
R:Orskov, C.; Bersani, M.; Johnsen, A.H.; Hojrup, P.; Holst, J.J.
J. Biol. Chem. 264, 12826-12829, 1989
A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intes
A:Reference number: A92732; MUID:89322738; PMID:2753890
A:Accession: B32614
A:Molecule type: protein
A:Residues: 78-107 <ORS>
R:Buhl, T.; Thim, L.; Kofod, H.; Orskov, C.; Harling, H.; Holst, J.J.
J. Biol. Chem. 263, 8621-8624, 1988
A:Title: Naturally occurring products of proglucagon 111-160 in the porcine and human
A:Reference number: A28064; MUID:88243712; PMID:3379036
A:Accession: A28064
A:Molecule type: protein
A:Residues: 111-158 <BOH>
C:Comment: X's represent missing amino acids, mostly basic, that are predicted to exi
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; int
F:1-69/Product: glucagon-69 #status experimental <G69>
F:1-30/Region: glicentin-related peptide #status experimental
F:33-69/Product: glucagon-37 #status predicted <G37>
F:33-61/Product: glucagon #status experimental <GCN>
F:78-107/Product: glucagon-like peptide 1 #status experimental <GL1>

F:126-158/Product: glucagon-like peptide 2 #status experimental <GL2>
F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl
Query Match 100.0%; Score 144; DB 1; Length 158;
Best local Similarity 100.0%; Pred. No. 1.1e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 HAECTFTSDVSSYLEGQAAKEFIAMLVK 28
Db 78 HAECTFTSDVSSYLEGQAAKEFIAMLVK 105
RESULT 2
GCGU
glucagon precursor [validated] - human
N:Contains: glucicentin; gllicentin-related polypeptide (GRPP); glucagon; glucagon-like pep
ke peptide 1 (tgrp1)
C:Species: Homo sapiens (man)
C>Date: 24-Apr-1984 #sequence, revision 31-Mar-1993 #text_change 08-Dec-2000
C:Accession: A24377; A44197; A30875; A32614; A01541; S23309
R:White, J.W.; Saunders, G.F.
Nucleic Acids Res. 14, 4719-4730, 1986
A:Title: Structure of the human glucagon gene.
A:Reference number: A24377; MUID:86259053; PMID:3725587
A:Accession: A24377
A:Molecule type: DNA
A:Residues: 1-180 <WHI>
A:Cross-references: GB:X03991
R:Bell, G.I.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, R.C.
Nature 304, 368-371, 1983
A:Title: Exon duplication and divergence in the human preproglucagon gene.
A:Reference number: A44197; MUID:83271477; PMID:6877358
A:Accession: A44197
A:Molecule type: DNA
A:Residues: 1-179 <BEL>
A:Cross-references: GB:V01515; NID:g31777; PIDN:CAA24759.1; PID:g31778
R:Ducker, D.J.; Ase, S.
J. Biol. Chem. 263, 13475-13478, 1988
A:Title: Glucagon gene expression in vertebrate brain
A:Reference number: A30875; MUID:88330860; PMID:2901414
A:Accession: A30875
A:Molecule type: mRNA
A:Residues: 1-180 <DRU>
A:Cross-references: GB:U04040; NID:g183269; PIDN:AAAS567.1; PID:g183270
R:Orskov, C.; Bersani, M.; Johnsen, A.H.; Hojrup, P.; Holst, J.J.
J. Biol. Chem. 264, 12826-12829, 1989
A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine
A:Reference number: A92732; MUID:89327238; PMID:2753880
A:Accession: A32614
A:Molecule type: protein
A:Residues: 98-127 <ORS>
R:Thomsen, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.
FEBS Lett. 21, 315-319, 1972
A:Title: The amino acid sequence of human glucagon.
A:Reference number: A91373
A:Accession: A01541
A:Molecule type: protein
A:Residues: 53-81 <THO>
R:Taugita, A.; Takamoto, K.; Kamo, M.; Iwade, H.
Eur. J. Biochem. 206, 691-696, 1992
A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis
A:Reference number: S23188; MUID:92298996; PMID:1606956
A:Accession: S23309
A:Molecule type: protein
A:Residues: 53-81 <RSU>
C:Comment: In pancreatic alpha-cells, proglucagon is processed to gllicentin-related poly
stinal L cells, proglucagon is processed to truncated glucagon-like peptide 1, glucagon-
C:Genetics:
A:Gene: GDB:GCG
A:Cross-references: GDB:119265; OMIM:138030
A:Map position: 2q36-2q37
A:Introns: 31/2; 85/2; 131/2; 179/2

C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; int
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status experimental <GCG>
F:21-89/Product: gllicentin #status experimental <GLN>
F:21-50/Product: gllicentin-related polypeptide #status predicted <GRPP>
F:53-89/Product: oxynomodulin #status experimental <OXN>
F:53-81/Product: glucagon #status experimental <GCN>
F:92-178/Product: major proglucagon fragment #status experimental <MPGF>
F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>
F:98-127/Product: truncated glucagon-like peptide 2 #status experimental <GL2>
F:126-158/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following
Query Match 100.0%; Score 144; DB 1; Length 180;
Best local Similarity 100.0%; Pred. No. 1.3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 HAECTFTSDVSSYLEGQAAKEFIAMLVK 28
Db 98 HAECTFTSDVSSYLEGQAAKEFIAMLVK 125
RESULT 3
GCGP
glucagon precursor - guinea pig
N:Alternate names: oxynomodulin
N:Contains: gllicentin-related peptide; glucagon; glucagon-37 (oxynomodulin); glucago
C:Species: Cavia porcellus (guinea pig)
C>Date: 30-Sep-1987 #sequence, revision 31-Dec-1992 #text_change 16-Jun-2000
C:Accession: A24856; A23849; A60323
R:Selino, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.
FEBS Lett. 203, 25-30, 1986
A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific
A:Reference number: A24856; MUID:86248118; PMID:3755107
A:Accession: A24856
A:Molecule type: mRNA
A:Residues: 1-180 <SEI>
A:Cross-references: DDBJ:D00014; GB:N00014; NID:g220288; PIDN:BAQ0010.1; PID:g220289
R:Huang, C.G.; Eng, J.; Pan, Y.C.E.; Huimes, J.D.; Yalow, R.S.
Diabetes 35, 508-512, 1986
A:Title: Guinea pig glucagon differs from other mammalian glucagons.
A:Reference number: A23849; MUID:86165412; PMID:3956884
A:Accession: A23849
A:Molecule type: protein
A:Residues: 53-81 <HUA>
R:Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.
Regul. Pept. 11, 309-320, 1985
A:Title: Primary structure of glucagon and a partial sequence of oxynomodulin (gluca
A:Reference number: A60323; MUID:86017849; PMID:4048553
A:Accession: A60323
A:Molecule type: protein
A:Residues: 53-81 <CON>
A>Note: glucagon-37 was not completely sequenced
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <GCG>
F:21-50/Product: gllicentin-related peptide #status predicted
F:53-89/Product: glucagon-37 (oxynomodulin) #status experimental <G37>
F:53-81/Product: glucagon #status experimental <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following
Query Match 100.0%; Score 144; DB 1; Length 180;
Best local Similarity 100.0%; Pred. No. 1.3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 HAECTFTSDVSSYLEGQAAKEFIAMLVK 28
Db 98 HAECTFTSDVSSYLEGQAAKEFIAMLVK 125


```
RESULT 4
GCRTDU
glucagon precursor - degu
N:Contains: glidentin-related peptide; glucagon; glucagon-like peptide 1; glucagon-like
C:Species: Octodon degus (degu)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
C:Accession: C36118
R:Nishl, M.; Steiner, D.F.
Mol. Endocrinol. 4, 1192-1198, 1990
A:Title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and
A:Reference number: A36118; MUID:91155952; PMID:2293024
A:Accession: C36118
A:Molecule type: mRNA
A:Residues: 1-180 <NIS>
A:Cross-references: GB:M57688; MID:9202467; PIDN:AAA0568.1; PID:9202468
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glidentin-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match
Best Local Similarity 100.0%; Score 144; DB 1; Length 180;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 98 HAEGFTSDVSSYLEGQAAKEFIAMLVK 125

RESULT 5
GCRT
glucagon precursor - rat
N:Contains: glidentin-related peptide; glucagon; glucagon-like peptide 1; glucagon-like
C:Species: Rattus norvegicus (Norway rat)
C:Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 26-Feb-1999
C:Accession: A22655; A25190; A44198
R:Heinrich, G.; Gros, P.; Habener, J.F.
J. Biol. Chem. 259, 14082-14087, 1984
A:Title: Glucagon gene sequence: four of six exons encode separate functional domains of
A:Reference number: A22655; MUID:85054853; PMID:6094539
A:Accession: A22655
A:Molecule type: DNA
A:Residues: 1-180 <HEI>
A:Cross-references: EMBL:K02809
A:Note: the authors translated the codon TTG for residue 10 as Glu and ACC for residue 5
R:Mojsos, S.; Heinrich, G.; Wilson, I.B.; Ravazzola, M.; Orci, L.; Habener, J.F.
J. Biol. Chem. 261, 11880-11889, 1986
A:Title: Preproglucagon gene expression in pancreas and intestine diversifies at the lev
A:Reference number: A25190; MUID:86304324; PMID:3528148
A:Accession: A25190
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-180 <MOJ>
R:Heinrich, G.; Gros, P.; Lund, P.K.; Bentley, R.C.; Habener, J.F.
Endocrinology 115, 2176-2181, 1984
A:Title: Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded amino acid s
A:Reference number: A44198; MUID:85051023; PMID:6548696
A:Accession: A44198
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-180 <HE2>
A:Cross-references: GB:K02809; GB:K02810; GB:K02811; GB:K02812
C:Genetics:
A:Introns: 31/2; 85/2; 131/2; 179/2
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F:1-20/Domain: signal sequence #status predicted <SIG>
```

```
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glidentin-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match
Best Local Similarity 100.0%; Score 144; DB 1; Length 180;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 98 HAEGFTSDVSSYLEGQAAKEFIAMLVK 125

RESULT 6
GCHY
glucagon precursor - golden hamster
N:Contains: glidentin-related peptide; glucagon; glucagon-like peptide 1; glucagon-11
C:Species: Mesocricetus auratus (golden hamster)
C:Date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #text_change 20-Mar-1998
C:Accession: A01339
R:Bell, G.I.; Santerre, R.F.; Mullenbach, G.T.
Nature 302, 716-718, 1983
A:Title: Hamster preproglucagon contains the sequence of glucagon and two related pep
A:Reference number: A01339; MUID:83167563; PMID:6835407
A:Accession: A01339
A:Molecule type: mRNA
A:Residues: 1-180 <BEL>
A:Cross-references: EMBL:J00059
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:1-20/Domain: signal sequence #status predicted <PGC>
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glidentin-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match
Best Local Similarity 100.0%; Score 144; DB 1; Length 180;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
DB 98 HAEGFTSDVSSYLEGQAAKEFIAMLVK 125

RESULT 7
GCBO
glucagon precursor - bovine
N:Contains: glidentin-related peptide; glucagon; glucagon-like peptide 1; glucagon-11
C:Species: Bos primigenius taurus (cattle)
C:Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 20-Mar-1998
C:Accession: A93970; A92081; A01538
R:Lopez, L.C.; Frazier, M.L.; Su, C.J.; Kumar, A.; Saunders, G.F.
Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983
A:Title: Mammalian pancreatic preproglucagon contains three glucagon-related peptides
A:Reference number: A93970; MUID:83299996; PMID:6577439
A:Accession: A93970
A:Molecule type: mRNA
A:Residues: 1-180 <LOP>
A:Cross-references: EMBL:K00107
R:Brumer, W.W.; Boucher, M.E.; Koffenberger Jr., J.E.
J. Biol. Chem. 246, 2822-2827, 1971
A:Title: Amino acid sequence of bovine glucagon.
A:Reference number: A92081; MUID:71166445; PMID:5102927
A:Accession: A92081
A:Molecule type: protein
A:Residues: 53-81 <BRO>
C:Superfamily: glucagon
```

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F:/1-20/Domain: signal sequence #status predicted <SIG>
F:/1-180/Product: proglucagon #status predicted <PGC>
F:/1-50/Region: glicentin-related peptide #status predicted
F:/53-81/Product: glucagon #status experimental <GCN>
F:/98-127/Product: glucagon-like peptide 1 #status experimental <GL1>
F:/146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F:/127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 100.0%; Score 144; DB 1; Length 180;
Best Local Similarity 100.0%; Pred. No. 1.3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSYLEGOAKKEFIAMLVK 28
Db 98 HAEGFTSDVSYLEGOAKKEFIAMLVK 125

RESULT 8

glucagon precursor - mouse
C:Species: Mus musculus (house mouse)
C:/Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
C:/Accession: A57294; S49903
R:/Mothenberg, M.E.; Elbertson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.;
J. Biol. Chem. 270, 10136-10146, 1995
A:/Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
A:/Reference number: A57294; PMID:95247722; PMID:7730317
A:/Accession: A57294
A:/Status: preliminary
A:/Molecule type: mRNA
A:/Residues: 1-180 <NOT>
A:/Cross-references: EMBL:246845; NID:9599880; PIDN:CAA86902.1; PID:9599881
C:/Superfamily: glucagon
C:/Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 100.0%; Score 144; DB 2; Length 180;
Best Local Similarity 100.0%; Pred. No. 1.3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSYLEGOAKKEFIAMLVK 28
Db 98 HAEGFTSDVSYLEGOAKKEFIAMLVK 125

RESULT 9

glucagon precursor - chicken
N:/Contains: glucagon; glucagon-like peptide 1
C:/Species: Gallus gallus (chicken)
C:/Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
C:/Accession: S09992; A92189; A60836; A01542
R:/Hasegawa, S.; Terzozzo, K.; Nata, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
FEBS Lett. 264, 117-120, 1990
A:/Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken F
A:/Reference number: S09992; PMID:90249492; PMID:2338135
A:/Accession: S09992
A:/Molecule type: mRNA
A:/Residues: 1-151 <RAS>

A:/Cross-references: EMBL:Y07539; NID:963749; PIDN:CAA68827.1; PID:963750
R:/Pollock, H.G.; Kimmel, J.R.
J. Biol. Chem. 250, 9377-9380, 1975
A:/Title: Chicken glucagon. Isolation and amino acid sequence studies.
A:/Reference number: A92189; PMID:76069271; PMID:1194290
A:/Accession: A92189
A:/Molecule type: protein
A:/Residues: 55-83 <POL>

R:/Huang, J.; Eng, J.; Yalow, R.S.
Horm. Metab. Res. 19, 542-544, 1987
A:/Title: Chicken glucagon: sequence and potency in receptor assay.
A:/Reference number: A60836; PMID:88113418; PMID:2826209
A:/Accession: A60836
A:/Molecule type: protein

A:/Residues: 55-83 <HUA>
C:/Superfamily: glucagon
C:/Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:/1-22/Domain: signal sequence #status predicted <SIG>
F:/23-151/Product: proglucagon #status predicted <PGC>
F:/55-83/Product: glucagon #status experimental <GCN>
F:/118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
F:/147/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 91.7%; Score 132; DB 1; Length 151;
Best Local Similarity 88.9%; Pred. No. 6.1e-12;
Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSYLEGOAKKEFIAMLV 27
Db 118 HAEGTSDITSYLEGOAKKEFIAMLV 144

RESULT 10

proglucagon - chicken
C:/Species: Gallus gallus (chicken)
C:/Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:/Accession: I51301
R:/Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A:/Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcrip
A:/Reference number: A55895; PMID:95295739; PMID:776976
A:/Accession: I51301
A:/Status: preliminary; translated from GB/EMBL/DBJ
A:/Molecule type: mRNA
A:/Residues: 1-206 <TRW>
A:/Cross-references: GB:S78477; NID:999386; PIDN:AA834506.1; PID:999387
C:/Superfamily: glucagon
C:/Keywords: duplication

Query Match 91.7%; Score 132; DB 2; Length 206;
Best Local Similarity 88.9%; Pred. No. 8.5e-12;
Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSYLEGOAKKEFIAMLV 27
Db 118 HAEGTSDITSYLEGOAKKEFIAMLV 144

RESULT 11

glucagon-like peptide - American eel
C:/Species: Anguilla rostrata (American eel)
C:/Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:/Accession: B61125
R:/Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A:/Title: The primary structure of glucagon-like peptide but not insulin has been cons
A:/Reference number: A61125; PMID:91340068; PMID:1874385
A:/Accession: B61125
A:/Molecule type: protein
A:/Residues: 1-30 <CON>

C:/Superfamily: glucagon
C:/Keywords: amidated carboxyl end; duplication
F:/1-30/Product: glucagon-like peptide #status experimental <GLP>
F:/30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match 81.9%; Score 118; DB 2; Length 30;
Best Local Similarity 80.8%; Pred. No. 1.2e-10;
Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Oy 1 HAEGFTSDVSYLEGOAKKEFIAMLV 26
Db 1 HAEGTSDVSYLEGOAKKEFIAMLV 26

RESULT 12

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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:06:27 ; Search time 12 Seconds
(without alignments)
96.778 Million cell updates/sec

Title: US-09-508-083-1

Sequence: 1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	ID	Description
1	144	100.0	158	GLUC_PIG	P01274 sus scrofa
2	144	100.0	180	GLUC_BOVIN	P01272 bos taurus
3	144	100.0	180	GLUC_CAVPO	P05110 cavia porce
4	144	100.0	180	GLUC_HUMAN	P01273 homo sapien
5	144	100.0	180	GLUC_MESAU	P55095 mus musculu
6	144	100.0	180	GLUC_MOUSE	P22890 octodon deg
7	144	100.0	180	GLUC_OCTDE	P06883 rattus norv
8	144	100.0	180	GLUC_RAT	P01277 gallus gall
9	132	91.7	151	GLUC_CHICK	P41521 anquilla an
10	118	81.9	30	GLUM_RANCA	P15438 rana catesb
11	118	81.9	103	GLUC_RANCA	P04092 Ioplihus ame
12	112	77.8	122	GLUC_LOPAM	P04093 Ictialurus p
13	111	77.1	71	GLUC_ICTPU	P09566 lepisosteus
14	110	76.4	78	GLUC_LEPSP	P81880 piaractus m
15	109	75.7	71	GLUC_PIAME	P79695 carassius a
16	105	72.9	121	GLUC_CARAU	P07449 oncorhynch
17	104	72.2	68	GLUC_ONCKI	P81027 oncorhynch
18	102.5	71.2	33	GLUC_ORENI	P09567 torpedo mar
19	97	67.4	29	GLUC_TORMA	P09586 myoxocephal
20	97	67.4	96	GLUC_MYOSC	P09687 scyllorhinu
21	95	66.0	29	GLUC_SCYCA	P13189 callorhynch
22	93	64.6	29	GLUC_CALMI	P01278 Ioplihus ame
23	93	64.6	124	GLUC_LOPAM	P18108 didelphis m
24	90	62.5	29	GLUC_DIDMA	P09199 lamptetra fl
25	90	62.5	29	GLUC_LAMEL	P25449 oryctolagus
26	90	62.5	29	GLUC_RABIT	P29794 anas famill
27	90	62.5	69	GLUC_CANFA	P01276 anas platyr
28	88	61.1	29	GLUC_ANAPL	P81026 oreochromis
29	87	60.4	36	GLUC_ORENI	P31297 chinchilla
30	87	60.4	29	GLUC_CHIBR	P23062 platichthys
31	86	59.7	29	GLUC_PLAFE	P33528 amia calva
32	83	57.6	75	GLUC_AMICA	P26349 heloderma s
33	83	57.6	87	EXE3_HELISU	

ALIGNMENTS

RESULT 1	ID	GLUC_PIG	STANDARD:	PRT:	158 AA.
AC	P01274;				
DT	21-JUL-1986 (rel. 01, Created)				
DT	01-NOV-1990 (rel. 16, Last sequence update)				
DT	16-OCT-2001 (rel. 40, Last annotation update)				
DE	Glucagon precursor [contains: Glucicntn; Glucicntn-related polypeptide				
DE	(GRP); Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like				
DE	peptide 2 (GLP2)] (Fragment).				
GN	CGC.				
OS	Sus scrofa (Pig).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.				
OX	NCBI_TaxID=9823;				
RP	[1]				
RX	SEQUENCE OF 1-69.				
RX	MEDLINE=81248172; PubMed=6894800;				
RA	Thim L., Moody A.J.;				
RT	"The primary structure of porcine glycicntn (proglucagon).";				
RL	Regul. Pept. 2:139-150(1981).				
RN	[2]				
RP	SEQUENCE OF 1-69.				
RX	MEDLINE=82221776; PubMed=7045833;				
RA	Thim L., Moody A.J.;				
RT	"The amino acid sequence of porcine glycicntn.";				
RL	Peptides 2 Suppl. 2:37-39(1981).				
RN	[3]				
RP	SEQUENCE OF 33-61.				
RA	Bromer W.W., Sinn L.G., Behrens O.K.;				
RT	"The amino acid sequence of glucagon. V. Location of amide groups,				
RL	acid degradation studies and summary of sequential evidence.";				
RN	J. Am. Chem. Soc. 79:2807-2810(1957).				
RP	[4]				
RP	SEQUENCE OF 78-107.				
RX	MEDLINE=89327238; PubMed=2753890;				
RA	Orskov C., Bersani M., Johnsen A.H., Hoelrup P., Holst J.J.;				
RT	"Complete sequences of glucagon-like peptide-1 from human and pig				
RL	small intestine.";				
RN	J. Biol. Chem. 264:12826-12829(1989).				
RP	[5]				
RP	SEQUENCE OF 111-158.				
RX	MEDLINE=88243712; PubMed=3379036;				
RA	Buhl T., Thim L., Kotod H., Orskov C., Harling H., Holst J.J.;				
RT	"Naturally occurring products of proglucagon 111-160 in the porcine				
RL	and human small intestine.";				
RN	J. Biol. Chem. 263:8621-8624(1988).				
RP	[6]				
RP	X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).				
RA	MEDLINE=76051297; PubMed=171582;				
RT	Sasaki K., Dockerrill S., Adamiak D.A., Tickle I.J., Blundell T.L.;				
RL	"X-ray analysis of glucagon and its relationship to receptor				
CC	binding.";				
CC	Nature 257:751-757(1975).				
CC	-I- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND				
CC	RAISES THE BLOOD SUGAR LEVEL.				

P20394 heloderma h
P09682 oryctolagus
P09680 bos taurus
P01281 sus scrofa
P01281 sus scrofa
P81401 bos taurus
P01284 sus scrofa
P32649 oryctolagus
P48756 mus musculu
006145 rattus norv
P09681 homo sapien
P01282 homo sapien
P32648 mus musculu

```

CC CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC CC HUMAN SEQUENCE.
CC CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR DR PIR; A01540; GCBO.
DR DR PDB; 1GCN; 30-SEP-83.
DR DR InterPro: IPR000532; Glucagon.
DR DR Pfam: PF00123; hormone2; 3.
DR DR SMART: SM00070; GLUCA; 3.
DR DR PROSITE; PS00260; GLUCAGON; 3.
KW KW Glucagon family; Hormone; Cleavage on pair of basic residues;
KW 3D-structure.
FT FT NON_TER 1 1
FT FT PEPTIDE 1 69 GLICENTIN-
FT FT PEPTIDE 1 30 GLICENTIN-RELATED POLYPEPTIDE.
FT FT PEPTIDE 33 61 GLUCAGON.
FT FT PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 1.
FT FT PEPTIDE 126 158 GLUCAGON-LIKE PEPTIDE 2.
FT FT HELIX 39 42
FT FT TURN 43 45
FT FT HELIX 46 55
FT FT TURN 56 57
SQ SQ SEQUENCE 158 AA; 18212 MW; 28CGFCF257F33B2 CRC64;

Query Match 100.0%; Score 144; DB 1; length 158;
Best Local Similarity 100.0%; Pred. No. 6e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAKFIAMLVK 28
Db 78 HAEGFTSDVSYLEGQAKFIAMLVK 105

RESULT 2
GLUC_BOVIN STANDARD; PRT; 180 AA.
ID GLUC_BOVIN
AC P01272;
DT 21-JUL-1986 (Rel. 01, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Glucagon precursor [Contains: Glucocentlin-related polypeptide (GRP);
DE Glucagon; glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=6329996; PubMed=6577439;
RA Lopez L.C., Friesler M.L., Su C.-J., Kumar A., Saunders G.F.;
RT "Mammalian pancreatic preproglucagon contains three glucagon-related
RT peptides.";
RL Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
RN [2]
RP SEQUENCE OF 53-81.
RX MEDLINE=7116445; PubMed=5102927;
RA Bromer W.W., Boucher M.E., Koffenberger J.E. Jr.;
RT "Amino acid sequence of bovine glucagon.";
RL J. Biol. Chem. 246:2822-2827(1971).
RN [3]
RP STRUCTURE BY NMR OF 53-81.
RX MEDLINE=7116445; PubMed=6631957;
RA Braun W., Wilder G., Lee K.H., Wuthrich K.;
RT "Conformation of glucagon in a lipid-water interphase by 1H nuclear
RT magnetic resonance.";
RL J. Mol. Biol. 169:921-948(1983).

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CC CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC CC RAISES THE BLOOD SUGAR LEVEL.
CC CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC CC or send an email to license@isb-sdb.ch).
CC CC -----
DR DR EMBL; K00107; AAA30538.1; -.
DR DR PIR; A01538; GCBO.
DR DR PDB; 1KX6; 13-FEB-02.
DR DR InterPro: IPR000532; Glucagon.
DR DR Pfam: PF00123; hormone2; 3.
DR DR PRINTS; PR00275; GLUCAGON.
DR DR SMART: SM00070; GLUCA; 3.
DR DR PROSITE; PS00260; GLUCAGON; 4.
KW KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW 3D-structure.
FT FT SIGNAL 1 20
FT FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT FT PEPTIDE 53 81 GLUCAGON.
FT FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
SQ SQ SEQUENCE 180 AA; 20944 MW; 8D9B4FF05B9F15FF CRC64;

Query Match 100.0%; Score 144; DB 1; length 180;
Best Local Similarity 100.0%; Pred. No. 6.9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAKFIAMLVK 28
Db 98 HAEGFTSDVSYLEGQAKFIAMLVK 125

RESULT 3
GLUC_CAVPO STANDARD; PRT; 180 AA.
ID GLUC_CAVPO
AC P05110;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucocentlin-related polypeptide (GRP);
DE Glucagon; glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
DE Glucagon-like peptide 2 (GLP2)].
GN GCG.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Cavidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86248118; PubMed=3755107;
RA Seino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
RT "Mutations in the guinea pig preproglucagon gene are restricted to a
RT specific portion of the prohormone sequence.";
RL FEBS Lett. 203:25-30(1986).
RN [2]
RP SEQUENCE OF 53-81.
RX MEDLINE=86165412; PubMed=3956884;
RA Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;
RT "Guinea pig glucagon differs from other mammalian glucagons.";
RL Diabetes 35:508-512(1986).
RN [3]
RP PARTIAL SEQUENCE OF 53-89.

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RX MEDLINE=86017849; PubMed=4048553;
RA Conlon J.M., Hansen H.F., Schwartz T.W.;
RT "Primary structure of glucagon and a partial sequence of
RL oxyntomodulin (glucagon-37) from the guinea pig.";
CC
CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC -----
CC
CC EMBL: D00014; BAA00010.1;
CC PIR: A24856; GCGP.
CC HSSP: P01274; IGCN.
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone2; 3.
CC PRINTS: PR00275; GLUCAGON.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 4.
CC
CC KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
CC
CC FT SIGNAL 1 20
CC FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
CC FT PEPTIDE 53 81 GLUCAGON.
CC FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
CC FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
CC FT PEPTIDE 180 AA; 20972 MW; 702FBI161D2776 CRC64;
CC
CC SQ SEQUENCE 180 AA; 20972 MW; 702FBI161D2776 CRC64;
CC
CC Query Match 100.0%; Score 144; DB 1; Length 180;
CC Best Local Similarity 100.0%; Pred. No. 6.9e-14;
CC Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
CC
QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
DB 98 HAEGFTSDVSSYLEGQAKEFIAMLVK 125
CC
RESULT 4
GLUC_HUMAN STANDARD; PRT; 180 AA.
ID GLUC_HUMAN
AC P01275;
DT 21-JUL-1986 (Rel. 01, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Glucagon precursor [Contains: Glucenin-related polypeptide (GRP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
CC GCG.
GN Homo sapiens (Human).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88330860; PubMed=2901414;
RA Drucker D.J., Asa S.;
RT "Glucagon gene expression in vertebrate brain.";
RL J. Biol. Chem. 263:13475-13478(1988).
CC [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86259053; PubMed=3725587;
RA White J.W., Saunders G.F.;

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RT "Structure of the human glucagon gene.";
RL Nucleic Acids Res. 14:4719-4730(1986).
CC [3]
CC SEQUENCE FROM N.A.
CC TISSUE=Liver;
RX MEDLINE=83271477; PubMed=6877358;
RA Bell G.I., Sanchez-Pescador R., Laybourn P.J., Najarian R.C.;
RT "Exon duplication and divergence in the human preproglucagon gene.";
RL Nature 304:368-371(1983).
CC [4]
CC SEQUENCE FROM N.A.
CC TISSUE=pancreas;
RA Strausberg R.;
RL Submitted (MAR-2001) to the EMBL/Genbank/DBJ databases.
CC [5]
CC SEQUENCE OF 53-81.
RA Thomsen J., Kristiansen K., Brunfeldt K., Sundby F.;
RT "The amino acid sequence of human glucagon.";
RL FEBS Lett. 21:315-319(1972).
CC [6]
CC SEQUENCE OF 98-127.
RX MEDLINE=89327238; PubMed=2753890;
RA Orskov C., Bersani M., Johnsen A.H., Hojrup P., Holst J.J.;
RT "Complete sequences of glucagon-like peptide-1 from human and pig
RL small intestine.";
RL J. Biol. Chem. 264:12826-12829(1989).
CC [7]
CC X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
RX MEDLINE=98334683; PubMed=9667960;
RA Sturm N.S., Lin Y., Burley S.K., Krstenansky J.L., Ahn J.M.,
RA Azizeh B.Y., Trivedi D., Hruby V.J.;
RT "Structure-function studies on positions 17, 18, and 21 replacement
RT analogues of glucagon: the importance of charged residues and salt
RT bridges in glucagon biological activity.";
RL J. Med. Chem. 41:2693-2700(1998).
CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- PHARMACEUTICAL: Available under the names glucagon (Eli Lilly) and
CC Glucagen or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
CC severe hypoglycemia in insulin-dependent diabetics.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -1- DATABASE: NMB-Glucagon at Eli Lilly.
CC NOTE-Clinical information on Eli Lilly glucagon products;
CC WWW="http://www.lillydiabetes.com/Products/PatientInfo.cfm".
CC -----
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CC
CC EMBL: J04040; AAS52567.1;
CC EMBL: X03991; CAA27627.1;
CC EMBL: V01515; CAA24759.1;
CC EMBL: BC005278; AAH05278.1;
CC PIR: A24377; GCHU
CC PIR: S23309; S23309.
CC PDB: 1BH0; 18-NOV-98.
CC Genew: HGNC:4191; GCG.
CC MIM: 138030;
CC MIM: 231530;
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone2; 3.
CC PRINTS: PR00275; GLUCAGON.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 4.

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KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KM Pharmaceutical; 3d-structure.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 98 127 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 FT CONFLICT 82 82 K -> N (IN REF. 3).
 SQ SEQUENCE 180 AA; 20909 MW; 7A99EEC629B2862C CRC64;
 Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6,9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 1 HAEGFTSDVSYLEGQAKKEFIAMLVK 28
 Db 98 HAEGFTSDVSYLEGQAKKEFIAMLVK 125
 RESULT 5
 GLUC_MESAU STANDARD; PRT; 180 AA.
 AC P01273;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucenin-related polypeptide (GRP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 ON NCBI_TaxID=10036;
 RX MEDLINE=83167563; PubMed=6835407;
 RA Bell G.I., Santerre R.F., Mullenbach G.T.;
 RT "Hamster preproglucagon contains the sequence of glucagon and two
 RT related peptides.";
 RL Nature 302:716-718(1983).
 RN (2)
 RP REVISIONS TO 12-15.
 RA Bell G.I.;
 RL Submitted (xxx-1985) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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 CC -----
 CC EMBL; J00059; AAA37074.1; -
 DR EMBL; A01539; GCHY.
 DR HSSP; P01274; IGCN.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50
 FT PEPTIDE 53 81
 FT PEPTIDE 92 128
 FT PEPTIDE 146 178
 FT PEPTIDE 180 AA; 20954 MW; 02791B49D7AADD4B CRC64;
 Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6,9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA; 20954 MW; 02791B49D7AADD4B CRC64;
 Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6,9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 1 HAEGFTSDVSYLEGQAKKEFIAMLVK 28
 Db 98 HAEGFTSDVSYLEGQAKKEFIAMLVK 125
 RESULT 6
 GLUC_MOUSE STANDARD; PRT; 180 AA.
 AC P55095;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Glucagon precursor [contains: Glucenin-related polypeptide (GRP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 ON NCBI_TaxID=10090;
 RX MEDLINE=95247722; PubMed=7730317;
 RA Rothenberg M.E., Elbertson C.D., Klein K., Zhou Y., Linberg I.,
 RA McDonald J.K., Mackin R.B., Noe B.D.;
 RT "Processing of mouse proglucagon by recombinant prohormone convertase
 RT 1 and immunopurified prohormone convertase 2 in vitro.";
 RL J. Biol. Chem. 270:10136-10146(1995).
 RN (2)
 RP SEQUENCE FROM N.A.
 RA Shamsadin R., Knepel W.;
 RL "Mouse glucagon full length cDNA."
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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 CC -----
 CC EMBL; 246845; CAA6902.1; -
 DR EMBL; AF276754; AAK96898.1; -
 DR HSSP; P01274; IGCN.
 DR MGD; MGI:95674; GCG.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50
 FT PEPTIDE 53 81
 FT PEPTIDE 92 128
 FT PEPTIDE 146 178
 FT PEPTIDE 180 AA; 20954 MW; 02791B49D7AADD4B CRC64;
 Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6,9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA: 20906 MW: 595AADD9A589950 CRC64:

Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6.9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28
 DB 98 HAEGFTSDVSSYLEGQAQKEFIAMLVK 125

RESULT 7

GLUC_OCTDE STANDARD: PRT: 180 AA.
 AC P22890:
 DT 01-AUG-1991 (Rel. 19, Created)
 DT 01-AUG-1991 (Rel. 19, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucagon-related polypeptide (GRP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Octodon degus (Degu).
 CC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Hystriognathii; Octodontidae; Octodon.
 OX NCBI_TaxID=10160;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91155952; PubMed=2293024;
 RA Nishi M., Steiner D.F.;
 RT "Cloning of complementary DNAs encoding islet amyloid polypeptide,
 RT insulin, and glucagon precursors from a New World rodent, the degu,
 RT Octodon degus.";
 RL Mol. Endocrinol. 4:1192-1198(1990).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC -----
 CC DR EMBL: M57688; AAA40588.1;
 CC DR PIR: C36118; GCRPDU.
 CC DR HSSP: P01274; IGCN.
 CC DR InterPro: IPR000532; Glucagon.
 CC DR Pfam: PF00123; hormone2; 3.
 CC DR PRINTS: PR00275; GLUCAGON.
 CC DR SMART: SM00070; GLUCA; 3.
 CC DR PROSITE: PS00260; GLUCAGON; 4.
 CC DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC KM Amidation.
 CC FT SIGNAL 1 20
 CC FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
 CC FT PEPTIDE 53 81 GLUCAGON.
 CC FT PEPTIDE 92 127 GLUCAGON-LIKE PEPTIDE 1.
 CC FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC FT MOD_RES 127 127 AMIDATION (G-128 PROVIDE AMIDE GROUP).
 CC SQ SEQUENCE 180 AA: 21165 MW: 6E8836160A9A3051 CRC64:
 Query Match 100.0%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 6.9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28
 DB 98 HAEGFTSDVSSYLEGQAQKEFIAMLVK 125

RESULT 8

GLUC_RAT STANDARD: PRT: 180 AA.
 AC P06883;
 DT 01-JAN-1988 (Rel. 06, Created)
 DT 01-JAN-1988 (Rel. 06, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucagon-related polypeptide (GRP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Rattus norvegicus (Rat).
 CC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=85054853; PubMed=6094539;
 RA Heinrich G., Gros P., Habener J.F.;
 RT "Glucagon gene sequence. Four of six exons encode separate functional
 RT domains of rat pre-proglucagon.";
 RL J. Biol. Chem. 259:14082-14087(1984).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=85051023; PubMed=6548696;
 RA Heinrich G., Gros P., Lund P.K., Bentley R.C., Habener J.F.;
 RT "Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded
 RT amino acid sequences of the rat pancreatic complementary
 RT deoxyribonucleic acid.";
 RL Endocrinology 115:2176-2181(1984).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86304324; PubMed=3528148;
 RA Mojsov S., Heinrich G., Wilson I.B., Ravazzola M., Orci L.,
 RA Habener J.F.;
 RT "Preproglucagon gene expression in pancreas and intestine diversifies
 RT at the level of post-translational processing.";
 RL J. Biol. Chem. 261:11880-11889(1986).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC or send an email to license@sib-sib.ch).
 CC -----
 CC DR EMBL: K02813; AAA41235.1;
 CC DR EMBL: K02809; AAA41235.1; JOINED.
 CC DR EMBL: K02810; AAA41235.1; JOINED.
 CC DR EMBL: K02811; AAA41235.1; JOINED.
 CC DR EMBL: K02812; AAA41235.1; JOINED.
 CC DR PIR: A22655; GCRP.
 CC DR PIR: A44196; A44198.
 CC DR HSSP: P01274; IGCN.
 CC DR InterPro: IPR000532; Glucagon.
 CC DR Pfam: PF00123; hormone2; 3.

DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 3.
 CC PROSITE; PS00260; GLUCAGON; 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA; 20846 MW; 76931409D03C7978 CRC64;

Query Match 100.0%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6.9e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGQAKKEFIAMLVK 28
 DB 98 HAEGFTSDVSYLEGQAKKEFIAMLVK 125

RESULT 9
 ID GLUC_CHICK STANDARD; PRT; 151 AA.
 AC P01277;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-AUG-1990 (Rel. 15, Last sequence update)
 DT 15-JUL-1999 (Rel. 38, Last annotation update)
 DE Glucagon precursor.
 OS Gallus gallus (Chicken), and
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OX NCBI_TaxID=9031, 9103;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Chicken; TISSUE=Pancreas;
 RX MEDLINE=90249492; PubMed=233135;
 RA Hasegawa S., Terazono K., Naka K., Takada T., Yamamoto H.,
 RA Okamoto H.;
 RT "Nucleotide sequence determination of chicken glucagon precursor
 RT cDNA. Chicken preproglucagon does not contain glucagon-like peptide
 RT II".
 RL FEBS Lett. 264:117-120(1990).
 RN [2]
 RP SEQUENCE OF 55-83.
 RC SPECIES=Chicken;
 RX MEDLINE=76069271; PubMed=1194290;
 RA Pollock H.G., Kimmel J.R.;
 RT "Chicken glucagon. Isolation and amino acid sequence studies".
 RL J. Biol. Chem. 250:9377-9380(1975).
 RN [3]
 RP COMPOSITION, AND SEQUENCE OF 55-83.
 RC SPECIES=M. gallipavo;
 RX MEDLINE=73074118; PubMed=4645932;
 RA Markussen J., Frandsen E.K., Hedling L.G., Sundby B.;
 RT "Turkey glucagon: crystallization, amino acid composition and
 RT immunology".
 RL Horm. Metab. Res. 4:360-363(1972).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE α CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE
 CC IDENTICAL WITH CHICKEN.
 CC -1- MISCELLANEOUS: CHICKEN PREPROGLUCAGON DOES NOT CONTAIN
 CC GLUCAGON-LIKE PEPTIDE II.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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 CC -----
 DR EMBL; Y07539; CAA68827.1; -.
 DR PIR; S09992; GCCH.
 DR PIR; A91740; A91740.
 DR HSSP; P01274; IGCN.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 3.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW Amidation.
 FT SIGNAL 1 22
 FT CHAIN 23 151 PROGLUCAGON.
 FT PEPTIDE 55 83 GLUCAGON.
 FT PROPEP 86 118
 FT PEPTIDE 118 147 GLUCAGON-LIKE PEPTIDE.
 FT MOD_RES 147 147 AMIDATION (G-148 PROVIDE AMIDE GROUP).
 SQ SEQUENCE 151 AA; 17520 MW; B6C0D87536C0AEB5 CRC64;

Query Match 91.7%; Score 132; DB 1; Length 151;
 Best Local Similarity 88.9%; Pred. No. 3.2e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGQAKKEFIAMLV 27
 DB 118 HAEGFTSDVSYLEGQAKKEFIAMLV 144

RESULT 10
 ID GLUM_ANGAN STANDARD; PRT; 30 AA.
 AC P41521;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Glucagon-like peptide (GLP).
 OS Anguilla anguilla (European freshwater eel), and
 OS Anguilla rostrata (American eel).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
 OC Anguilla.
 OX NCBI_TaxID=7936, 7938;
 RN [1]
 RP SEQUENCE.
 RC TISSUE=Pancreas;
 RX MEDLINE=91340068; PubMed=1874385;
 RA Conlon J.M., Andrews P.C., Thim L., Moon T.W.;
 RT "The primary structure of glucagon-like peptide but not insulin has
 RT been conserved between the American eel, *Anguilla rostrata* and the
 RT European eel, *Anguilla anguilla*".
 RL Gen. Comp. Endocrinol. 82:23-32(1991).
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR; B61125; B61125.
 CC PIR; C61125; C61125.
 CC HSSP; P01275; IBHO.
 CC InterPro; IPR000532; Glucagon.
 CC Pfam; PF00123; hormone2; 1.
 CC PRINTS; PR00275; GLUCAGON.
 CC SMART; SM00070; GLUCA; 1.
 CC PROSITE; PS00260; GLUCAGON; 1.
 KW Glucagon family; Amidation.
 FT MOD_RES 30 30
 SQ SEQUENCE 30 AA; 3376 MW; 592DA5EADB6E49D0 CRC64;

Query Match 81.9%; Score 118; DB 1; Length 30;
 Best Local Similarity 80.8%; Pred. No. 6.8e-11;
 Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSYLEGQAKKEFIAMLV 26

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DB      1  HAEGTYSVSSYLQDQAKKEFVSWL 26
      |||||:|||||:|||||:||
RESULT 11
GLUC_RANCA STANDARD: PRT: 103 AA.
AC P15438; P15439; P15440;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DE 01-JUL-1993 (Rel. 26, Last annotation update)
DE Glucagon precursor (Fragments).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OX NCBI_TaxId=8400;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=88257102; PubMed=3260236;
RA Pollock H.G., Hamilton J.W., Rouse J.B., Ebner K.E., Rawltch A.B.;
RT "Isolation of peptide hormones from the pancreas of the bullfrog
RT oxytomodulin, and two glucagon-like peptides.";
RT J. Biol. Chem. 263:9746-9751(1988).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC OTHER SPECIES SEQUENCES.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR PIR: B28091; GCEGB.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA: 3.
DR PROSITE: PS00260; GLUCAGON: 3.
KW Glucagon family; Hormone.
FT PEPTIDE 1 29 GLUCAGON.
FT PEPTIDE 1 36 GLUCAGON-36 (OXYTOMODULIN).
FT PEPTIDE 39 70 GLUCAGON-LIKE PEPTIDE 1.
FT NON-CONS 70 71
FT PEPTIDE 71 103 GLUCAGON-LIKE PEPTIDE 2.
SQ SEQUENCE 103 AA; 11719 MW; 316287B7BAE1C8F7 CRC64;

Query Match 81.9%; Score 118; DB 1; Length 103;
Best Local Similarity 75.0%; Pred. No. 2.4e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGTYSVSSYLQDQAKKEFIAMLVK 28
DB 39 HADGFTSDMSSYLEKAKKEFVMDLTK 66
      ||:|||||:|||||:|||||:|
RESULT 12
GLU2_LOPAM STANDARD: PRT: 122 AA.
AC P04092;
DT 01-NOV-1986 (Rel. 03, Created)
DT 01-NOV-1986 (Rel. 03, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon II precursor [contains: Glucagon-related polypeptide (GRPP);
DE Glucagon II; Glucagon-like peptide II].
OS Lophius americanus (American goosefish) (Anglerfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Paracanthopterygii; Lophiiformes; Lophidae; Lophius.
OX NCBI_TaxId=8073;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=83135785; PubMed=6338015;
RA Lund P.K., Goodman R.H., Montminy M.R., Dee P.C., Habener J.F.;

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RT "Anglerfish islet pre-proglucagon II. Nucleotide and corresponding
RT amino acid sequence of the cDNA.";
RT J. Biol. Chem. 258:3280-3284(1983).
RN [2]
RP PROCESSING.
RX MEDLINE=86286913; PubMed=3526301;
RA Noe B.D., Andrews P.C.;
RT "Specific glucagon-related peptides isolated from anglerfish islets
RT are metabolic cleavage products of (pre)proglucagon-II.";
RT Peptides 7:331-339(1986).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC -----
DR EMBL: V00632; CAA23905.1; -.
DR PIR: A05150; GCAR2.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA: 2.
DR PROSITE: PS00260; GLUCAGON: 2.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 21
FT PEPTIDE 22 49 GLUCENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 52 80 GLUCAGON II.
FT PROPEP 83 86
FT PEPTIDE 89 119 GLUCAGON-LIKE PEPTIDE II.
SQ SEQUENCE 122 AA; 14171 MW; 5140AC47E915519 CRC64;

Query Match 77.8%; Score 112; DB 1; Length 122;
Best Local Similarity 73.1%; Pred. No. 2.1e-09;
Matches 19; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGTYSVSSYLQDQAKKEFIAMLV 26
DB 89 HADGFTSDVSSYLQDQAKKEFVSWL 114
      ||:|||||:|||||:|||||:|
RESULT 13
GLUC_ICTPU STANDARD: PRT: 71 AA.
AC P04093;
DT 01-NOV-1986 (Rel. 03, Created)
DT 01-MAR-1989 (Rel. 10, Last sequence update)
DT 01-NOV-1990 (Rel. 16, Last annotation update)
DE Glucagon precursor (Fragment).
OS Ictalurus punctatus (Channel catfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Siluriformes;
OC Ictaluridae; Ictalurus.
OX NCBI_TaxId=7998;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=87156787; PubMed=3030323;
RA Hoossein N.M., Mahrenholz A.M., Andrews P.C., Gurd R.S.;
RT "Biological activities of catfish glucagon and glucagon-like
RT peptide.";
RT Biochem. Biophys. Res. Commun. 143:87-92(1987).
RN [2]
RP SEQUENCE.
RC TISSUE=Pancreas;

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RX MEDLINE-85157536; PubMed-3838546;
 RA Andrews P.C., Romner P.;
 RT Isolation and structures of glucagon and glucagon-like peptide from
 RT catfish pancreas.*;
 RL J. Biol. Chem. 260:3910-3914(1985).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOMOLOGY WITH
 CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: A05166; GICDC.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUCA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 DR Glucagon family; Hormone.
 KM NON_TER 1 1
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT CONFLICT 53 53 E -> D (IN REF. 2).
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA; 8173 MW; 24688E79AD981A8F CRC64;
 Query Match 77.1%; Score 111; DB 1; Length 71;
 Best Local Similarity 76.9%; Pred. No. 1.7e-09;
 Matches 20; Conservative 4; Mismatches 2; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGQAAKEFIAWL 26
 DB 38 HADGTYSDVSSYLEGQAAKEFIAWL 63
 RESULT 14
 ID GLUC_LEPSP STANDARD; PRT; 78 AA.
 AC P09566;
 DT '01-MAR-1989 (Rel. 10, Created)
 DT '01-NOV-1990 (Rel. 16, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucagon; glucagon-36 (oxyntomodulin)];
 DE Glucagon-like peptide] (Fragment).
 OS Lepisosteus spatula (Alligator gar) (Actinostei: Euteleostomi).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Semionotiformes; Lepisosteidae;
 OC Lepisosteus.
 NC NCBITaxID=7917;
 RN NCBITaxID=7917;
 RP SEQUENCE OF 1-36 AND 45-78.
 RC TISSUE=Pancreas;
 RX MEDLINE-88196798; PubMed-3282974;
 RA Pollock H.G., Kimmel J.R., Ebner K.E., Hamilton J.W., Rouse J.B.,
 RA Lance V., Kawlitch A.B.;
 RT Isolation of alligator gar (Lepisosteus spatula) glucagon,
 RT oxyntomodulin, and glucagon-like peptide: amino acid sequences of
 RT oxyntomodulin and glucagon-like peptide.*;
 RL Gen. Comp. Endocrinol. 69:133-140(1988).
 RN [2]
 RP PRELIMINARY SEQUENCE OF 1-29.
 RC TISSUE=Pancreas;
 RX MEDLINE-88030594; PubMed-3311873;
 RA Pollock H.G., Kimmel J.R., Hamilton J.W., Rouse J.B.,
 RA Lance V., Kawlitch A.B.;
 RT Isolation and structures of alligator gar (Lepisosteus spatula)
 RT insulin and pancreatic polypeptide.*;
 RL Gen. Comp. Endocrinol. 67:375-382(1987).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOMOLOGY WITH

CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: S06339; GCGXA.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUCA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 DR Glucagon family; Hormone.
 KM PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 1 36 GLUCAGON-LIKE PEPTIDE.
 FT PEPTIDE 45 78 GLUCAGON-36.
 SQ SEQUENCE 78 AA; 8990 MW; 30106496271594E0 CRC64;
 Query Match 76.4%; Score 110; DB 1; Length 78;
 Best Local Similarity 73.1%; Pred. No. 2.6e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGQAAKEFIAWL 26
 DB 45 HADGTYSDVSSYLEGQAAKEFIAWL 70
 RESULT 15
 ID GLUC_PIAME STANDARD; PRT; 71 AA.
 AC P81880;
 DT 30-MAY-2000 (Rel. 39, Created)
 DT 30-MAY-2000 (Rel. 39, Last sequence update)
 DT 30-MAY-2000 (Rel. 39, Last annotation update)
 DE Glucagon precursor (Fragment).
 OS Placactus mesopotamicus (Pacu).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Characiformes;
 OC Characidae; Placactus.
 NC NCBITaxID=42528;
 RN NCBITaxID=42528;
 RP SEQUENCE.
 RC TISSUE=Pancreas;
 RX MEDLINE-99259587; PubMed-10327603;
 RA de Lima J.A., Oliveira B., Conlon J.M.;
 RT Purification and characterization of insulin and peptides derived
 RT from proglucagon and prosomatostatin from the fruit-eating fish, the
 RT pacu Placactus mesopotamicus.*;
 RL Comp. Biochem. Physiol. 122B:127-135(1999).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOMOLOGY WITH
 CC OTHER FISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 DR Glucagon family; Hormone.
 KM NON_TER 1 1
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA; 8146 MW; F66A3CA2DD9806C5 CRC64;
 Query Match 75.7%; Score 109; DB 1; Length 71;
 Best Local Similarity 73.1%; Pred. No. 3.4e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGQAAKEFIAWL 26
 DB 38 HADGTYSDVSSYLEGQAAKEFIAWL 63

Search completed: March 19, 2003, 12:10:55
Job time : 13 secs

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OM protein - protein search, using sw model

Run on: March 19, 2003, 12:09:02 ; Search time 29 Seconds
(without alignments)
198.942 Million cell updates/sec

Title: US-09-508-083-1

Perfect score: 144

Sequence: 1 HAEGFTSDVSSYLEGQAKKEFIAMLVK 28

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL.21:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	144	100.0	180	6 Q95LG0	Q95LG0 canis fam1
2	132	91.7	206	13 Q91410	Q91410 gallus gall
3	126	87.5	204	13 Q12956	Q12956 heloderma s
4	118	81.9	220	13 Q8UWL9	Q8UWL9 hoplobatrach
5	114	79.2	266	13 Q42143	Q42143 xenopus lae
6	109	75.7	72	13 Q91409	Q91409 oncorhynch
7	109	75.7	178	13 Q91971	Q91971 oncorhynch
8	109	75.7	178	13 Q91189	Q91189 oncorhynch
9	109	75.7	219	13 Q42144	Q42144 xenopus lae
10	102	70.8	160	13 Q9PUR1	Q9PUR1 petromyzon
11	98	68.1	121	13 Q9DD66	Q9DD66 brachydanio
12	95	66.0	62	13 Q9PRW9	Q9PRW9 scyllorhinu
13	88	61.1	96	13 Q9DGA3	Q9DGA3 amphiolites
14	83	57.6	120	13 Q9PUR0	Q9PUR0 petromyzon
15	59	41.0	130	11 Q9CVF1	Q9CVF1 mus musculu
16	59	41.0	144	11 Q9D887	Q9D887 mus musculu

17	59	41.0	389	2 Q93IH2	Q93IH2 wolfinella s
18	58	40.3	171	11 Q9D227	Q9D227 mus musculu
19	54.5	37.8	426	16 P71006	P71006 bacillus su
20	53	36.8	172	13 Q9DE29	Q9DE29 brachydanio
21	52.5	36.5	427	17 Q8TLX0	Q8TLX0 methanosarc
22	52	36.1	138	13 Q98SP4	Q98SP4 oncorhynch
23	52	36.1	171	13 Q9PUR8	Q9PUR8 xenopus lae
24	52	36.1	173	13 Q98SP5	Q98SP5 oncorhynch
25	52	36.1	175	13 Q90XZ4	Q90XZ4 ictalurus p
26	51.5	35.8	285	17 Q8TPJ9	Q8TPJ9 methanosarc
27	51	35.4	352	5 Q9XXQ1	Q9XXQ1 caenorhabdi
28	51	35.4	810	4 Q9NTW8	Q9NTW8 homo sapien
29	51	35.4	867	4 Q9UEX9	Q9UEX9 homo sapien
30	50.5	35.1	372	10 Q9FEW9	Q9FEW9 cicor arlet
31	50	34.7	89	13 Q98SP6	Q98SP6 anas platyr
32	50	34.7	244	16 Q8ZLJ5	Q8ZLJ5 salmella
33	50	34.7	331	5 Q18301	Q18301 caenorhabdi
34	49	34.0	175	13 Q98T03	Q98T03 brachydanio
35	49	34.0	315	11 Q9D3P0	Q9D3P0 mus musculu
36	49	34.0	504	11 Q9M45	Q9M45 mus musculu
37	49	34.0	505	11 P97770	P97770 mus musculu
38	49	34.0	571	5 Q966F0	Q966F0 caenorhabdi
39	49	34.0	576	5 Q9B1U4	Q9B1U4 caenorhabdi
40	49	34.0	589	5 Q9NSB9	Q9NSB9 caenorhabdi
41	49	34.0	613	5 Q8WSP1	Q8WSP1 caenorhabdi
42	49	34.0	634	3 Q9HEE5	Q9HEE5 neuropsora
43	49	34.0	786	5 Q9NSB7	Q9NSB7 caenorhabdi
44	49	34.0	835	5 Q9NSB8	Q9NSB8 caenorhabdi
45	48	33.3	28	13 Q9PRN8	Q9PRN8 carassius a

ALIGNMENTS

RESULT 1	Q95LG0	PRELIMINARY;	PRT;	180 AA.
AC	Q95LG0;			
DT	01-DEC-2001 (TREMBLrel. 19, Created)			
DT	01-DEC-2001 (TREMBLrel. 19, Last sequence update)			
DT	01-MAR-2002 (TREMBLrel. 20, Last annotation update)			
DE	Preproglucagon.			
OS	Canis familiaris (Dog).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.			
OX	NCBI_Taxid=9615;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RA	Irwin D.M.;			
RT	"cDNA cloning of proglucagon from the stomach and pancreas of the dog."			
RL	Submitted (SEP-2000) to the EMBL/Genbank/DBJ databases.			
DR	EMBL; AF308439; AAL09425.1; -			
DR	InterPro; IPR000532; Glucagon.			
DR	Pfam; PF00123; hormone2; 3.			
DR	PROSITE; PS00260; GLUCAGON; UNKNOWN_3.			
SO	SEQUENCE 180 AA; 21114 MW; 80F66941ARC324FD CRC64;			
Query Match	100.0%;	Score 144;	DB 6;	Length 180;
Best Local Similarity	100.0%;	Pred. No. 6.5e-14;		
Matches 28;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
QY	1 HAEGFTSDVSSYLEGQAKKEFIAMLVK 28			
DB	98 HAEGFTSDVSSYLEGQAKKEFIAMLVK 125			
RESULT 2	Q91410	PRELIMINARY;	PRT;	206 AA.
ID	Q91410			
AC	Q91410;			
DT	01-NOV-1996 (TREMBLrel. 01, Created)			
DT	01-NOV-1996 (TREMBLrel. 01, Last sequence update)			

DT 01-DEC-2001 (TREMBLrel. 19, last annotation update)
 DE Proglucagon.
 GN PROGLUCAGON.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95295739; PubMed=7776976;
 RA Irwin D.M., Wong J.;
 RT "Trot and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 DR EMBL: S78477; AAB34506.1; -
 DR HSSP: P01274; 1GCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA; 3.
 DR PROSITE: PS00260; GLUCAGON; 3.
 SQ SEQUENCE 206 AA; 23875 MW; AB299ELB02PC6AA4 CRC64;

Query Match 91.7%; Score 132; DB 13; Length 206;
 Best Local Similarity 88.9%; Pred. No. 5,1e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGAAKEFIAVLV 27
 DB 118 HAEGTTSDITSTLEGAAKEFIAMLV 144

RESULT 3

ID 012956 PRELIMINARY; PRT; 204 AA.
 AC 012956; 012955; 04, Created)
 DT 01-JUL-1997 (TREMBLrel. 04, last sequence update)
 DT 01-JUL-1997 (TREMBLrel. 04, last sequence update)
 DE "01-JUN-2001 (TREMBLrel. 17, last annotation update)
 DE Glucagon precursor.
 OS Heloderma suspectum (Gila monster).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Lepidosaurs; Squamata; Scleroglossa; Anguilliformia; Helodermatidae;
 OC Heloderma.
 NCBI_TaxID=8554;
 RN [1]
 RP SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
 RC TISSUE=INTESTINE, AND PANCREAS;
 RX MEDLINE=97172477; PubMed=9020121;
 RA Chen Y.E., Drucker D.J.;
 RT "Tissue-specific expression of unique mRNAs that encode proglucagon-
 derived peptides or exendin 4 in the lizard.";
 RL J. Biol. Chem. 272:4108-4115(1997).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLUCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; LPII (SHOWN HERE) AND LPI; ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- TISSUE SPECIFICITY: ISOFORM LPII IS EXPRESSED IN BOTH PANCREAS AND
 CC INTESTINE. EXPRESSION OF ISOFORM LPI IS RESTRICTED TO THE
 CC PANCREAS. NEITHER ISOFORM IS DETECTED IN SALIVARY GLAND.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 DE EMBL: U77612; AAB51129.1; -
 DR EMBL: U77611; AAB51128.1; -
 DR HSSP: P01274; 1GCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA; 3.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; hormone; cleavage on pair of basic residues; signal;

KW Alternative splicing.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50
 FT PEPTIDE 53 81
 FT PEPTIDE 116 145
 FT PEPTIDE 164 196
 FT PEPTIDE 149 149
 FT VARSPLIC 150 204
 FT VARSPLIC 150 204
 SQ SEQUENCE 204 AA; 23553 MW; B132E3FE6873E72 CRC64;

Query Match 87.5%; Score 126; DB 13; Length 204;
 Best Local Similarity 85.2%; Pred. No. 4,2e-11;
 Matches 23; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGAAKEFIAVLV 27
 DB 116 HADGRTSDISSYLEGAAKEFIAMLV 142

RESULT 4

ID 080WL9 PRELIMINARY; PRT; 220 AA.
 AC 080WL9;
 DT 01-MAR-2002 (TREMBLrel. 20, Created)
 DT 01-MAR-2002 (TREMBLrel. 20, last sequence update)
 DE "01-JUN-2002 (TREMBLrel. 21, last annotation update)
 DE Proglucagon.
 OS Hoplobatrachus rugulosus.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae;
 OC Hoplobatrachus.
 NCBI_TaxID=110072;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Yeung C.-M., Chow B.K.C.;
 RT "Identification of a proglucagon cDNA from Rana tigrina rugulosa that
 encodes two GLP-1s.";
 RL Gen. Comp. Endocrinol. 124:0-0(2001).
 DR EMBL: AF324209; AAL35758.1; -
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA; 4.
 DR PROSITE: PS00260; GLUCAGON; UNKNOWN_4
 SQ SEQUENCE 220 AA; 25615 MW; C72D926E7F89E381 CRC64;

Query Match 81.9%; Score 118; DB 13; Length 220;
 Best Local Similarity 75.0%; Pred. No. 7,5e-10;
 Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGAAKEFIAVLV 28
 DB 135 HAEGFTSDMTSTLEKAAKEFVDWLK 162

RESULT 5

ID 042143 PRELIMINARY; PRT; 266 AA.
 AC 042143;
 DT 01-JAN-1998 (TREMBLrel. 05, Created)
 DT 01-JAN-1998 (TREMBLrel. 05, last sequence update)
 DE "01-JUN-2001 (TREMBLrel. 17, last annotation update)
 DE Glucagon I precursor [contains: glucagon; glucagon-like peptide 1A
 (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
 (GLP-1C); glucagon-like peptide 2 (GLP-2)].
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidae; Pipidae;
 OC Xenopodinae; Xenopus.
 NCBI_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RC TISSUE=PANCREAS;

RX MEDLINE-97368292; PubMed-9223287;
 RA Irwin D.M., Satkunarejah M., Wen Y., Brubaker P.L., Pederson R.A.,
 Wheeler M.B.;
 RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
 insulinotropic properties";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7915-7920(1997).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 THE BLOOD SUGAR LEVEL.
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: 1 (SHOWN HERE) AND 2; ARE
 PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: AF004432; AAB65660.1; -.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 5.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA. 5.
 DR PROSITE: PS00260; GLUCAGON; 5.
 KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
 KM Multigene family; Alternative splicing.
 FT SIGNAL 1 ?
 FT PEPTIDE 53 81 GLUCAGON-
 FT PEPTIDE 97 133 GLUCAGON-LIKE PEPTIDE 1A.
 FT PEPTIDE 142 173 GLUCAGON-LIKE PEPTIDE 1B.
 FT PEPTIDE 180 211 GLUCAGON-LIKE PEPTIDE 1C.
 FT PEPTIDE 227 259 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPIC 214 261 MISSING (IN ISOFORM 2).
 SQ SEQUENCE 266 AA; 30951 MW; 544F7BEC20AF872C CRC64;

Query Match 79.2%; Score 114; DB 13; Length 266;
 Best Local Similarity 67.9%; Pred. No. 3.8e-09;
 Matches 19; Conservative 7; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28
 DB 180 HAEGFTNDMTYLEKAKKEFVGLIK 207

RESULT 6
 ID 091409 PRELIMINARY; PRT; 72 AA.
 AC 091409; 091232;
 DT 01-NOV-1996 (TREMblrel. 01, Created)
 DT 01-NOV-1996 (TREMblrel. 01, Last sequence update)
 DE 01-DEC-2001 (TREMblrel. 19, Last annotation update)
 OS PROGLUCAGON (Fragment).
 OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 NCBI_TaxID=74940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-95295739; PubMed-7776976;
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2";
 RL Mol. Endocrinol. 9:267-277(1995).
 DR EMBL: S78474; AAD14283.1; -.
 DR EMBL: U19920; AAC59670.1; -.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA. 2.
 DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1.
 FT NON_TER 1 1
 SQ SEQUENCE 72 AA; 8293 MW; 8584352B1C260A31 CRC64;

Query Match 75.7%; Score 109; DB 13; Length 72;
 Best Local Similarity 69.2%; Pred. No. 4.9e-09;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQKEFIAMLV 26
 DB 39 HADGTYSDVSTYLLDQQAQKDFVSWL 64

RESULT 7
 ID 091971 PRELIMINARY; PRT; 178 AA.
 AC 091971; 091408; 091188; 092169;
 DT 01-NOV-1996 (TREMblrel. 01, Created)
 DT 01-NOV-1996 (TREMblrel. 01, Last sequence update)
 DE 01-JUN-2001 (TREMblrel. 17, Last annotation update)
 OS Glucagon I precursor.
 OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 NCBI_TaxID=8022;
 RN [1]
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RC TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS;
 RX MEDLINE-95295739; PubMed-7776976;
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2";
 RL Mol. Endocrinol. 9:267-277(1995).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: INTESTINAL (SHOWN HERE) AND
 PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: U19913; AAC59667.1; -.
 DR EMBL: U19917; AAC59669.1; -.
 DR EMBL: U19918; AAC60212.1; -.
 DR EMBL: U19919; AAC60213.1; -.
 DR EMBL: U19918; AAC60213.1; JOINED.
 DR EMBL: S78475; AAB34505.1; -.
 DR EMBL: S78473; AAB34504.2; -.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA. 3.
 DR PROSITE: PS00260; GLUCAGON; 3.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW Alternative splicing; Multigene family.
 FT SIGNAL 1 ?
 FT PEPTIDE 52 80 GRP (GLICENTINE RELATED POLYPEPTIDE).
 FT PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPIC 124 178 MISSING (IN PANCREATIC ISOFORM).
 SQ SEQUENCE 178 AA; 20034 MW; 5CF6980CF2A9D58E CRC64;

Query Match 75.7%; Score 109; DB 13; Length 178;
 Best Local Similarity 69.2%; Pred. No. 1.4e-08;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQKEFIAMLV 26
 DB 90 HADGTYSDVSTYLLDQQAQKDFVSWL 115
 RESULT 8
 ID 091189 PRELIMINARY; PRT; 178 AA.
 AC 091189; 092168;
 DT 01-NOV-1996 (TREMblrel. 01, Created)
 DT 01-NOV-1996 (TREMblrel. 01, Last sequence update)
 DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
 DE Glucagon II precursor.

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OS Oncochrychus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncochrychus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RC TISSUE=DISTAL SMALL INTESTINE, AND PANCREAS;
RX MEDLINE=95295739; PubMed=776976;
RA Irwin D.M., Wong J.;
RT "Proot and chicken proglucagon: alternative splicing generates mRNA
RL transcripts encoding glucagon-like peptide 2."
RL Mol. Endocrinol. 9:267-277(1995).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: INTESTINAL (KNOWN HERE) AND
CC PANCREATIC. ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: U19914; AAC59668.1; -.
DR EMBL: U19916; AAC60210.1; -.
DR EMBL: U19915; AAC60209.1; JOINED.
DR EMBL: U19915; AAC60209.1; -.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAGON.
DR PROSITE: PS00260; GLUCAGON; UNKNOWN_2.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW Alternative splicing; Multigene family.
FT SIGNAL 1
FT PEPTIDE 1 49 GRP (GLYCERINE RELATED POLYPEPTIDE).
FT PEPTIDE 52 80 GLUCAGON.
FT PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
FT VARSPLIC 124 178 MISSING (IN PANCREATIC ISOFORM).
SO SEQUENCE 178 AA; 19998 MW; E89D73866CD91C66 CRC64;

Query Match 75.7%; Score 109; DB 13; Length 178;
Best Local Similarity 69.2%; Pred. No. 1.4e-08;
Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAECTFTSDVSYLQGAKEFIAMLV 26
DB 90 HAECTFTSDVSYLQGAKEFIAMLV 115

RESULT 9
OY 042144 PRELIMINARY; PRT; 219 AA.
ID 042144
AC 042144;
DT 01-JAN-1998 (TREMBLrel. 05, Created)
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
DE Glucagon II precursor [Contains: Glucagon; glucagon-like peptide 1A
DE (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
DE (GLP-1C)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
OC Xenopodidae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=PANCREAS;
RX MEDLINE=97368292; PubMed=9223287;
RA Irwin D.M., Sackunaratnam M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties."
RL Proc. Natl. Acad. Sci. U.S.A. 94:7915-7920(1997).

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CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF004433; AAB65661.1; -.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 4.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 4.
DR PROSITE: PS00260; GLUCAGON; 3.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family.
FT SIGNAL 1
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 97 133 GLUCAGON-LIKE PEPTIDE 1A.
FT PEPTIDE 142 173 GLUCAGON-LIKE PEPTIDE 1B.
FT PEPTIDE 180 211 GLUCAGON-LIKE PEPTIDE 1C.
SO SEQUENCE 219 AA; 25271 MW; ACC699233C362CE0 CRC64;

Query Match 75.7%; Score 109; DB 13; Length 219;
Best Local Similarity 66.7%; Pred. No. 1.8e-08;
Matches 18; Conservative 7; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAECTFTSDVSYLQGAKEFIAMLV 27
DB 180 HAECTFTDMNTYLEKAKEFIAMLV 206

RESULT 10
OY 09PURI PRELIMINARY; PRT; 160 AA.
ID 09PURI
AC 09PURI; 09PR28; 09PR27;
DT 01-MAY-2000 (TREMBLrel. 13, Created)
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE Glucagon I precursor [Contains: Glucagon; glucagon-like peptide 1
DE (GLP-1); glucagon-like peptide 2 (GLP-2)].
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzontiformes; Petromyzontidae; Petromyzon.
OX NCBI_TaxID=7757;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=INTESTINE;
RX MEDLINE=20022986; PubMed=10555286;
RA Irwin D.M., Huner O., Youson J.H.;
RT "Lamprey proglucagon and the origin of glucagon-like peptides."
RL Mol. Biol. Evol. 16:1548-1557(1999).
RN [2]
RN SEQUENCE OF 43-71 AND 82-113.
RP TISSUE=INTESTINE;
RC TISSUE=INTESTINE;
RX Conlon J.M., Nielsen P.F., Youson J.H.;
RT "Primary structures of glucagon and glucagon-like peptide isolated
RT from the intestine of the parasitic phase lamprey Petromyzon
RT marinus."
RL Gen. Comp. Endocrinol. 91:96-104(1993).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF159707; AAF09186.1; -.
DR HSSP: P01275; IBHO.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 2.
DR PROSITE: PS00260; GLUCAGON; 2.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family.
FT SIGNAL 1
FT PEPTIDE 43 71 GLUCAGON.
FT PEPTIDE 82 113 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 130 160 GLUCAGON-LIKE PEPTIDE 2.

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SQL SEQUENCE 160 AA; 18042 MW; 9A52C530D5A74072 CRC64;

Query Match Best Local Similarity 70.8%; Score 102; DB 13; Length 160;

Matches 15; Conservative 11; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAKFIAMLVK 28

DB 82 HADGFTNDMTSYLDAKARDFVSMILAR 109

RESULT 11

Q9DDE6 PRELIMINARY; PRT; 121 AA.

AC Q9DDE6; 01-MAR-2001 (TREMBLrel. 16, Created)

DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)

DE Glucagon polypeptidein.

GN GCG OR GLU.

OS Brachydanio rerio (zebrafish) (zebra danio).

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Danio.

OX NCBI_TaxID=7955;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=99425190; PubMed=10495291;

RA Argenton F., Zecchin E., Bortolussi M.;

RT "Early appearance of pancreatic hormone-expressing cells in the

RL zebrafish embryo.";

RL Mech. Dev. 87:217-221(1999).

DR EMBL; AJ133697; CAC20108.1; -

DR HSSP; P01274; 1GCG.

DR ZFIN; ZDB-GENE-010219-1; gcg.

DR InterPro; IPR000532; Glucagon.

DR Pfam; PF00123; hormone2; 2.

DR PRINTS; PR00275; GLUCAGON.

DR SMART; SM00070; GLUCA; 2.

DR PROSITE; PS00260; GLUCAGON; 1.

KW Polypeptidein.

FT CHAIN 49 79 GLUCAGON.

FT CHAIN 88 121 GLUCAGON-LIKE PEPTIDE 1.

SO SEQUENCE 121 AA; 13537 MW; A85385F690DA180F CRC64;

Query Match Best Local Similarity 68.1%; Score 98; DB 13; Length 121;

Matches 19; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAKFIAMLV 26

DB 88 HAEGFTSDVSSYLEGQAQAKFIAMLV 113

RT "Primary structures of peptides derived from proglucagon isolated from

RL the pancreas of the elasmobranch fish, Scyliorhinus canicula.";

CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES

CC THE BLOOD SUGAR LEVEL.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

DR HSSP; P01274; 1GCG.

DR InterPro; IPR000532; Glucagon.

DR PRINTS; PR00275; GLUCAGON.

DR SMART; SM00070; GLUCA; 2.

DR PROSITE; PS00260; GLUCAGON; 2.

KW Glucagon family; Hormone.

FT PEPTIDE 1 29 GLUCAGON-29.

FT NON_CONS 33 34 GLUCAGON-33.

FT PEPTIDE 34 62 GLUCAGON-LIKE PEPTIDE.

SO SEQUENCE 62 AA; 7270 MW; C5F87C12C69CD1 CRC64;

Query Match Best Local Similarity 66.0%; Score 95; DB 13; Length 62;

Matches 15; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAKFIAMLV 27

DB 1 HSEGTFTSDVSSYLEGQAQAKFIAMLV 27

RESULT 13

Q9DGA3 PRELIMINARY; PRT; 96 AA.

AC Q9DGA3; 01-MAR-2001 (TREMBLrel. 16, Created)

DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)

DE Proglucagon (Fragment).

OS Ambloplites rupestris.

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;

OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;

OC Centrarchidae; Ambloplites.

OX NCBI_TaxID=109273;

RN [1]

RP SEQUENCE FROM N.A.

RX Al-Mahrouki A.A., Irwin D.M., Youson J.H.;

RT "Rock Bass Proglucagon";

RL Submitted (Sep-1999) to the EMBL/Genbank/DBJ databases.

DR EMBL; AF190499; AAG16778.1; -

DR HSSP; P01274; 1GCG.

DR InterPro; IPR000532; Glucagon.

DR Pfam; PF00123; hormone2; 2.

DR PRINTS; PR00275; GLUCAGON.

DR SMART; SM00070; GLUCA; 2.

DR PROSITE; PS00260; GLUCAGON; UNKNOWN_1.

FT NON_TER 1 1

FT CHAIN 39 70 GLUCAGON.

FT CHAIN 86 96 GLUCAGON-LIKE PEPTIDE 1.

FT NON_TER 96 96 GLUCAGON-LIKE PEPTIDE 2.

SO SEQUENCE 96 AA; 11225 MW; 6435033BDDC00CE CRC64;

Query Match Best Local Similarity 61.1%; Score 88; DB 13; Length 96;

Matches 14; Conservative 9; Mismatches 4; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAKFIAMLV 27

DB 1 HSGGFTNDVTVLIEDROADFIAMLV 27

RESULT 14

Q9PUB0 PRELIMINARY; PRT; 120 AA.

AC Q9PUB0; 01-MAR-2001 (TREMBLrel. 16, Created)

DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)

DE Glucagon precursor (Contains: glucagon-29; glucagon-33; glucagon-1like

DE peptide (fragments).

OS Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).

OC Eukaryota; Metazoa; Chordata; Vertebrata; Chondrichthyes;

OC Elasmobranchii; Galeomorphi; Galeoidea; Carcharhiniformes;

OC Scyliorhinidae; Scyliorhinus.

OX NCBI_TaxID=7830;

RN [1]

RP SEQUENCE.

RC TISSUE-PANCREAS;

RX MEDLINE=94286411; PubMed=8015974;

AC Conlon J.M., Hazon N., Thim L.;

DT 01-MAY-2000 (Tremblrel. 13, Created)
 DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE Glucagon II precursor [Contains: Glucagon; glucagon-like peptide (GLP)].
 OS Petromyzon marinus (Sea lamprey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hypercoartia;
 OC Petromyzontiformes; Petromyzontidae; Petromyzon.
 ON NCBI_TaxID=7757;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=INTESTINE;
 RX MEDLINE=20022986; PubMed=10555286;
 RA Irwin D.M., Humer O., Youson J.H.;
 RT "Lamprey proglucagon and the origin of glucagon-like peptides.";
 RL Mol. Biol. Evol. 16:1548-1557(1999).
 CC - FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 THE BLOOD SUGAR LEVEL.
 CC - SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC EMBL: AF159708; AAF09187.1; -.
 DR HSSP: P01275; 1BH0.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCAG. 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
 KW Multigene family.
 FT SIGNAL. 1
 FT PEPTIDE 44 72 POTENTIAL.
 FT 89 120 GLUCAGON-LIKE PEPTIDE.
 SQ SEQUENCE 120 AA; 13397 MW; FBDE67B96E198D8 CRC64;

Query Match 57.6%; Score 83; DB 13; Length 120;
 Best Local Similarity 48.1%; Pred. No. 8.1e-05;
 Matches 13; Conservative 9; Mismatches 5; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAKEFIAMLV 27
 Db 44 HSQGSFTSDYSKHLVDKQAKDFVWML 70

RESULT 15
 Q9CVF1 PRELIMINARY; PRT; 130 AA.
 AC Q9CVF1;
 DT 01-JUN-2001 (Tremblrel. 17, Created)
 DT 01-JUN-2001 (Tremblrel. 17, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE Gastric inhibitory polypeptide (Fragment).
 GN GIP.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 ON NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=SMALL INTESTINE;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Atakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadoya K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schiraldi L.M., Staudt F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barish G.,
 RA Blake J., Boffelli D., Bojunga N., Carlini P., de Bonaudo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamaya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
 RA Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohsaki S.,
 RA Hayashizaki Y.;
 RT "Functional annotation of a full-length mouse cDNA collection.";
 RL Nature 409:685-690(2001).
 DR EMBL: AK008525; BAB25720.1; -.
 DR HSSP: P01274; 1GCN.
 DR MGD: MGI:107504; GIP.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 1.
 DR SMART: SM00070; GLUCAG. 1.
 DR PROSITE: PS00260; GLUCAGON; 1.
 FT NON_TER 1
 SQ SEQUENCE 130 AA; 14906 MW; 95B3B6E91E2A7992 CRC64;

Query Match 41.0%; Score 59; DB 11; Length 130;
 Best Local Similarity 40.7%; Pred. No. 0.41;
 Matches 11; Conservative 7; Mismatches 9; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSYLEGQAKEFIAMLV 27
 Db 30 YAEFTSDYSIAMDKIRQDFVWML 56

Search completed: March 19, 2003, 12:11:33
 Job time : 31 secs